A PUBLICATION OF THE NORTH AMERICAN MYCOLOGICAL ASSOCIATION

The Mycophile Quarterly

JULY AUGUST SEPTEMBER 2024

Mushrooms BEFORE, DURING AND AFTER PREGNANCY

Meet the Rhode Island Mycological Society!

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Cover

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Visit www.namyco.org or email Luke Smithson
membershipmanager@namyco.org

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Archive Copies
of the newsletter are available in the Publications section of the NAMA website, www.namyco.org

Content
Please contact Mycophile@namyco.org with your article proposals and ideas. We'll get you published!

Submissions
Submissions must be received in editable-document format (do not send pdfs), with photos attached separately (not embedded) and photo credits provided.

NAMA Toadstool Picker's Review

As an organization, we usually stay pretty quiet from spring into early fall.

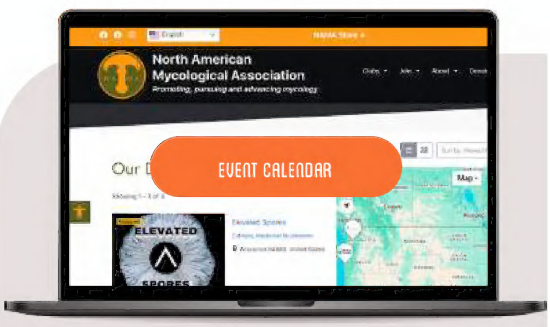
NAMA President Trent Blizzard and Web Admin Kristen Blizzard

But this year NAMA has a lot going on! That is partly because many of us are focused more on the mushrooms in the woods from April through September. Realistically, planning and executing forays also takes a lot of our energies. With three forays this year between July and November, we are pretty busy!

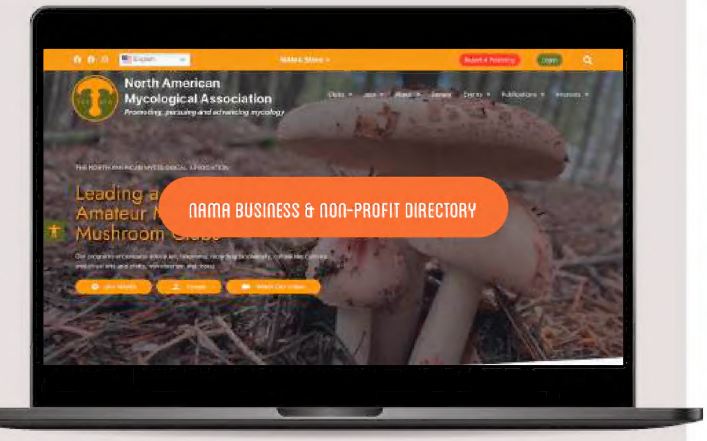
Here are some exciting announcements and opportunities:

The Dr. James Curry Foray Scholarship is an exciting new opportunity for the 2024/2025 fiscal year. This new scholarship is funded by Dr. James Curry and its goal is to help young people attend forays in their region. NAMA will award $300 to any NAMA-affiliated club that applies (27 total awards); in turn, the club will administer the scholarship by awarding it to a promising student to help defray their costs of attending a foray. Does your club want to award a $300 foray scholarship? Click here to learn more: Dr. James Curry Foray Scholarship.

We have a new Event Calendar on our website. Check it out to see mycologically relevant events happening all across North America. If you are one of our



NAMA-affiliated clubs, please add your event by emailing Web Admin Kristen Blizzard at webadmin@namyco.org. If you are a nonprofit or business with an event to advertise, please join NAMA via our Corporate Membership (details below) to add your event to this industry calendar.



Corporate Memberships are now live on the NAMA website and we have our first new Corporate Members. The annual membership dues rate is $80 for nonprofits, $130 for for-profit businesses and $500 for Scholarship Supporting Members. These memberships include an individual membership, a listing in our new NAMA Business & Nonprofit Directory and the option of adding an event to our Event Calendar.

Special thanks to Mikuni Wild Foods (WA), Elevated Spores (WI) and Modern Forager (OR), which are on board as our inaugural business members.

NAMA is hiring a Webinar Manager and has budgeted a $200-per-month stipend for this new position. Are you interested? It involves organizing 24 webinars a year for our members. The Webinar Manager is not actually required to conduct the webinars, just schedule, announce and administer registration for each one. It is probably 2 to 3 hours of work per webinar but requires timely activity. It is a great opportunity for the right person to become more involved with NAMA and interface with many of the experts who lead our webinars each year. Interested applicants, please submit your details by clicking here: NAMA Webinar Coordinator application.

We are considering how to celebrate and explore Mexico. After doing 2023 and 2024 forays in Mexico—thanks to genius Event Organizers Zachary and Kimberly Hunter!—we would like to continue and enlarge our efforts and to be more inclusive of this region of North America. Do you have an interest in joining a Mexico Relations Committee? Please email president@namyco.org and tell me more!

Do you want to help NAMA find a future foray location? NAMA is trying to plan both Regional and Annual Forays and this usually starts with finding a great host venue. I am forming an ad-hoc committee we are calling the Foray Facilities Committee, the goal of which is to find facilities and locations for future forays. We would love to have your help! We will meet once a month via Zoom and work together to create a list of awesome future foray ideas and locations. We would love to have your help with that.

Are you interested in becoming a Foray Planner? Planning a foray is a difficult yet rewarding position. NAMA has been lucky enough to have some great foray planners in our recent past (and present) including Sam Landes, Mandie Quark, Kristen Blizzard, Zachary and Kimberly Hunter, Michael Colosimo, Jess Starwood and current Foray Committee Chair Ken Buegeleisen. This position comes with a stipend and NAMA would like to develop an additional foray planner (or two) who can help plan forays, especially our Regional Forays, which typically host 50 to 150 NAMA members. If this position interests you, please shoot me an email at president@namyco.org. I would love to tell you more!

Trent Blizzard

Trent Blizzard
President

NAMA News

Learn about the Different Things Happening in and Around NAMA.

2024 NAMA Visual Arts Contest: Submissions Due October 15

ROSE TURSI, VISUAL ARTS COMMITTEE CHAIR

Welcome to the 2024 North American Mycological Association Visual Arts Contest! We are excited for another year of fungally infused art. Please read through the following Rules & Guidelines to see how, when and where to submit your art piece(s). **The submission date has been extended and all submissions are now due no later than October 15, 2024**. Please use our fantastic new webform to submit your pieces this year. We hope you have a great time creating your pieces and may the funnest, fanciest, most fiercely fetching fungi find their way to the finish line!

Contest Rules & Guidelines

All forms of art are accepted; when submitting, please choose the category into which you feel your work best fits. Please see Category Guidelines below.

Categories

- Traditional Drawing
- Traditional Painting
- Mixed Media
- 3D Art – Sculpture
- 3D Art – Sewing and Fiber Arts
- 3D Art – Woodworking
- 3D Art – Jewelry
- 3D Art – Ceramics/Pottery
- Non AI Digital Art
- AI Art
- Photography – Pictorial
- Photography – Abstract
- Photography – Symbiosis
- Photography – Documentary

CLICK HERE

To Submit Your 2024 NAMA Visual Arts Contest Entry

- Entrant must be either a member of NAMA or a member of one of NAMA's affiliated clubs (please see list of clubs here: Roster of NAMA-affiliated Clubs).
- Each entrant may enter up to 6 pieces total in the contest, with no more than 2 entries for any one category.
- No "adult" content; entries must be "family friendly."
- Art must visually depict fungi somewhere in the piece and/or use fungi as an ingredient (for example, dyed or painted with pigments made from mushrooms, dried mushrooms in mixed media, etc.). Depictions or use of lichens and myxomycetes (slime molds) are allowed.
- By entering, entrant agrees to allow NAMA the use of submission images in our newsletter, social media, website and printed promotional materials at NAMA's discretion. Please include your @ name if you would like to be tagged on Instagram.

Prizes

- Fourteen entrants (one winner from each category) will receive a one-year membership in NAMA or a one-year extension of their membership if they are already a NAMA member.
- Honorable Mentions may be presented for entries found to be of particular interest but that do not place.
- Winners will be announced and notable entries displayed in a slideshow presentation at NAMA's Annual Continental Foray, this year to be held in Randall, Washington, October 31 to November 3, 2024.

Submitting

- All submissions must be received by October 15, 2024. This gives us ample time to review and judge submissions before winners are announced in late October/early November.
- Submit one (1) photo per entry (3D categories may submit up to 3 photos per entry) preferably in .jpg format and in a high enough resolution that it can be projected on a screen without pixelation (300dpi is usually sufficient).

- File name must be labeled with identifying info such as entrant's name, category, title, and photo number (for example: JaneSmith.Sculpture.FungiAreFun.1.jpg).
- Submit your entries using the namyco.org website form at https://namyco.org/interests/visual-arts/2024visualartscontest/. Each required field must be completed for the entry to be successfully submitted. A separate form must be filled out for each submission.
- Submit any questions to the NAMA Visual Arts Committee: visualarts@namyco.org
- Include "NAMA Visual Arts Contest question" in the subject line and any other relevant info in the body of the email.
- Voting will be conducted by an impartial jury of professional artists selected by NAMA's Visual Arts Committee.
- We encourage artists to submit a short paragraph with their entries describing species depicted/used, and any other interesting tidbits such as inspiration or process behind the work. We would like to see distinct and real mushrooms represented. This, along with quality and skill, will play a major role in the selection process.

Category Guidelines

- **Traditional Drawing**: Pencil, charcoal, marker or ink drawings and any other traditional dry media. May include minor digital touch-up.
- **Traditional Painting**: Watercolor, gouache, acrylic, oil and any other traditional wet media. May include minor digital touch-up. Special consideration may be given to entries painted with mushroom and lichen derived pigments.
- **Mixed Media**: Traditional artwork in which more than one medium or material has been employed. This category includes collage, assemblage, etc. Drawings and paintings made on mushroom based papers may be entered here. Art may have some dimension but any obvious 3D mixed media should be entered under Sculpture.
- **3D Art – Sculpture**: Includes sculpture, castings, miniatures, 3D mixed media and any other dimensional crafts that are not solely made of clay, wood, fiber or could be considered jewelry. Pieces made mostly of paper mâché, metal, stone, glass, plastic or bone should be entered here.
- **3D Art – Woodworking**: Art that is made from wood should be entered here.

This category ranges from everything including carvings, whittling, joinery, furniture, figurines, etc. If it's wood, enter it here.

- **3D Art – Jewelry**: Any type of wearable jewelry that features fungi in some way should be entered in this category.
- **3D Art – Ceramics/Pottery**: Any fungal art in which clay or clay-like substances (Eg. Fimo, Sculpey) are the main media used should be entered in this category. Can include functional pieces like bowls, cups, or plates, or more decorative pieces like figurines or clay sculptures.
- **3D Art – Sewing and Fiber Arts**: Knitting, crocheting, felting, rug making, weaving, basketry, etc. Also includes all sewing, quilting and most wearable art (mixed media and sculpture in which fiber and/or fabric are the primary component should be entered here). Special consideration may be given to entries dyed with mushroom and lichen-derived pigments.
- **Photography – Pictorial**: This division is for single photos that illustrate the beauty and variety of fungi in form and color. Mushrooms should not be cut or turned over and should look natural. Judging criteria include consideration of both technical (focus, depth of field, exposure, lighting, color, absence of distracting elements) and artistic (composition, color, background, lighting) aspects. Obvious photo manipulation discouraged.
- **Photography – Abstract**: This division is for single photos that illustrate the visual features of fungi without attempting to represent the subject in an obvious way. Judging criteria include the same as in the Pictorial category as well as focus on achieving an impressionistic effect via shapes, forms, colors and textures, and consideration of the many varied details of fungi and their physical features. Consider macrophotography, shadows and light, and skewing the obvious without manipulating the image. Obvious photo manipulation discouraged.
- **Photography – Symbiosis**: This division is for single photos that illustrate the ecological relationship between two species that live in close proximity to each other. Organisms in symbiotic relationships have evolved to exploit a unique niche that other organisms provide such as fungi in relation to creatures like reptiles, insects and gastropods for example. Judging criteria include a portrayal of such a relationship in conjunction with composition, color, background, lighting, etc. Obvious photo manipulation discouraged.
- **Photography – Documentary**: For single photographs especially suited as illustrations in a field guide or monograph, or for use in a lecture. Emphasis

is placed on portrayal of key morphological characteristics such that the usefulness of the image as an identification aid is maximized. Subjects may be shot in the field, laboratory or studio and the photographer has complete freedom to cut, process, physically manipulate or orient the specimen in any desired manner to achieve the goal. Close-ups of single features and photomicrographs are acceptable. Judging criteria will be the same as in the Pictorial category but they will be of secondary importance to the overall mycological utility of the photo. Accurate identification of the subject will be a consideration. Obvious photo manipulation discouraged.

- **Non-AI Digital Art**: This is a bit of a catch-all category. Includes heavy photo manipulation, digital illustration, digital collage. Animated GIFs as well as short videos under 2 minutes may be entered here.
- **AI Art**: AI generated and/or assisted artwork must be entered in this category. AI generated or assisted artwork can not be submitted to any other category and, if submitted there, will be immediately disqualified. Please include your entire written prompt and which generator was used. The written prompt will be displayed next to the image as a form of "poetry" to accompany it.

Please note: The Visual Arts Committee may, at its discretion, change the category of an entry or reject an entry that does not fit the spirit of the contest.

We are aware of the contentious feelings towards AI art. In the hope of alleviating some concerns from traditional artists whose livelihoods are directly threatened by the expanding impacts of AI, we have created a separate category with extra requirements in an effort to include users of this new and rapidly changing technology.

CLICK HERE

To Submit Your 2024 NAMA Visual Arts Contest Entry

Help FunDiS find the Missing Piggyback PinkGill (*Volvariella surrecta*, a parasite of *Clitocybe nebularis*)!

CHRISTIN VAN SWEARINGEN (SHE/HER), FUNDIS,
2019 VOUCHER COLLECTION PROJECT STUDENT ASSISTANT

The Fungal Diversity Survey (FunDiS) is seeking observations of *Volvariella surrecta*, a mushroom that fruits parasitically out of *Clitocybe nebularis*.

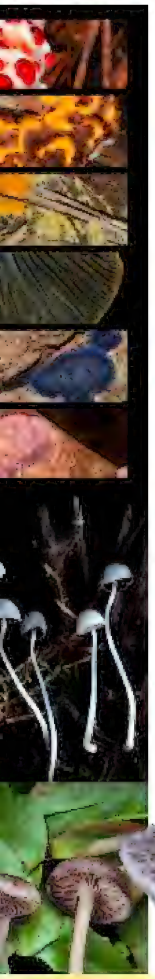
The quarry sought is a pinkish-white gilled mushroom with a prominent volva. It is the only species that has not been observed during the 4 years of the West Coast Rare Fungi Challenge! Look for the "eggs" of the Piggyback Pinkgill on the tops and around the margins of deformed looking *Clitocybe*: if you leave them in a moist place for a few days, they are likely to "hatch!" Peak season is October through November in the northeast United States but their season is not well understood on the west coast.

DOWNLOAD PDF

Instagratitude!

KATHY YERICH, MARKETING COMMITTEE CHAIR

Like voracious, spreading mycelium, the NAMA social media accounts continue to grow and connect people from all over the world! Thank you, Adam Cohen, not only for your original vision but your faithful dedication to the NAMA Instagram account. For more than 3 years, you not only drove the bus but invited a stellar cast of characters to jump aboard for the ride—and, because we all know that the fun is in the journey, you couldn't have picked a better person to take the wheel than Liv Filialuna. They share their talents with NAMA in so many ways: through the Voucher Collection Project Committee, Marketing Committee and now as the Instagram Account Manager. Check out the next article on page 14 to learn more about the multitalented Liv!



We also want to send big gratitude to the takeover artists who continue to share their inspirational and educational images, videos and high-quality content that keeps our page a fun place to visit—daily! Because of their devotion, our account has grown to 25.8K followers! If you haven't already, please check it out @northamericanmyco.

Here is a list of the talented contributors to our account from May 26 to August 31, 2024. Not an Instagram user? You can catch the same content on the NAMA Facebook page and we encourage you to follow the NAMA Facebook GROUP and post your mushroom related content there!

INSTAGRAM TAKEOVER ARTISTS

The Asian Mycologuy	@fungalust
Ariel Bonkoski	@arielsmushroomco
Telluride Mushroom Festival	@telluridemushroomfest
Francois Guay	@fungikingdom.qc @mycosphaera
Jess Starwood	@jess.starwood
Arne Martinson	@astro.fungus @northernmushroomtours
Gim Siew Tan	@mymyxos.my
Kyle Canan	@ohio_mushroom_dna_lab
Belen Itahi Bautista	@itahi_bautista
Fungal Diversity Survey (FunDiS)	@fungaldiversitysurvey
Flown Kimmerling	@flowntheloop
Mandie Quark	@mandie_quark & @mycena.media
Chef Patrick Deitrick	@chefpterdeitrick

NAMA Instagram Account Management Change

LIV FILIALUNA, VOUCHER COLLECTION PROJECT AND MARKETING COMMITTEES

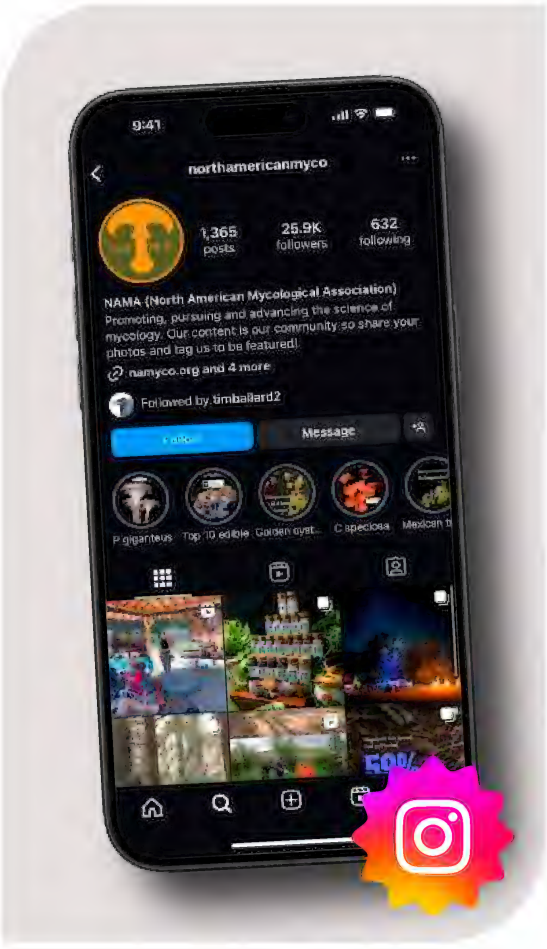
HELLO NAMA!

Liv Filialuna (they/them)
NAMA Instagram Account Manager

I am here to introduce myself, Liv Filialuna (they/them), as the new NAMA Instagram account manager, and to thank my predecessor, Adam Cohen (he/him), for all his great work.

I met Adam for the first time in June of 2024 during a meeting in which I thought we were going to talk about a data analysis project but instead turned into a transfer of the proverbial Instagram reins. During this meeting I learned that Adam, a self-proclaimed "chronically online" person, had proposed and implemented the idea of starting the NAMA Instagram in March of 2021 with the idea of providing a place for members of our community to interact with one another and get a visual glimpse at our wide variety of interests. He had spent the last three-and-a-half years building connections to Instagram-based members of the fungal community and building up NAMA's Instagram following to nearly 26,000! Having exceeded NAMA's follower dreams, Adam had been on the hunt for someone to take over the responsibility of managing the account. Apparently, this is where I came in.

I attended my first NAMA Annual Foray in 2019 as a Voucher Assistant, returned in 2021 and then joined the Voucher Collection Project Committee, joining the Marketing Committee in 2023. I remain an active member of both committees and due to my preference for Instagram and my undergraduate minor in statistics, I jumped on the idea of helping the Marketing Committee analyze the impact of our Instagram Takeover program. Our Instagram takeovers


9:41
northamericanmyco
1,365 posts
25.9K followers
632 following
NAMA (North American Mycological Association)
Promoting, pursuing and advancing the science of mycology. Our content is our community so share your photos and tag us to be featured!
namyco.org and 4 more
Followed by timballard2
Message

occur on a weekly basis and consist of a different myco-related account being given access to post content through our Instagram each week. Since NAMA began hosting takeovers, we have featured accounts focusing on art, cooking, community science, identification, events, cultivation, foraging and so much more. Our takeover hosts have hailed from all over but predominantly represent the North American mycological community. We are still analyzing the data but have seen an increase in followers and variety of interests as fungi increasingly intrigue a wider audience.

I am extremely excited to be the next steward of the NAMA Instagram, to strengthen my own connections to the mycocommunity and help support NAMA's mission of providing a platform to highlight and connect followers with a wide range of interests. One major change I hope to implement is a way for individual members and clubs to submit content, as well as increase promotion of fungi-related events across North America. You may have also seen an increase in nontakeover content as part of a project named "NAMA Sundays," with the purpose of providing a consistent time and place for NAMA-specific content to be shared.

Thank you for all your hard work Adam!

Please be sure to check out NAMA's Instagram account, @northamericanmyco, or by scanning the QR code.

NORTHAMERICANMYCO

NAMA Club Relations Committee Provides New Resources for Affiliated Clubs

LUKE SMITHSON, MEMBERSHIP MANAGER

The NAMA Club Relations Committee (CRC) is excited to announce the release of new resources and content designed to support NAMA-Affiliated Clubs in their communications efforts. These resources, which include newsletter templates, images, and various content folders, are available to assist clubs in creating engaging newsletters, social media posts and website content.

New Templates and Images

To streamline the creation of NAMA-related content, the committee has developed two recommended templates, each paired with a corresponding image or graphic:

Template 1 with Image/Graphic 1

NAMA
News, Events, Resources
Title
Content
Because our club is a NAMA affiliated mushroom club, our members are eligible for a $5 NAMA membership discount.

DOWNLOAD TEMPLATE 1

DOWNLOAD IMAGE/GRAPHIC 1

Template 2 with Image/Graphic 2

News
Events
Resources
Title
Content
Because our club is a NAMA affiliated mushroom club, our members are eligible for a $5 NAMA membership discount.

DOWNLOAD TEMPLATE 2

DOWNLOAD IMAGE/GRAPHIC 2

These templates are fully customizable, allowing clubs to modify them as needed. However, the CRC requests that any changes to the provided NAMA newsletter articles be kept to a minimum. Additionally, clubs are encouraged to include a link to the NAMA Membership page or the NAMA website in all communications.

Expanded Newsletter Content

To further support club communications, the CRC has created three additional folders of content:

- **NAMA News and Events**: Featuring news and events that are relevant to NAMA that your members may also have an interest in, with articles that remain useful for several months after their initial publication.
- **NAMA General Content**: Offering a range of write-ups on NAMA resources that may interest club members. A comprehensive list of available content can be found in the Published General Content Index.

- **Other Newsletter Content Ideas**: A collection of ideas for diverse newsletter content, complete with a Read Me File that provides a full list of suggestions and links to examples where available.

Access and Support

All NAMA Affiliated Clubs are encouraged to download, print, or copy and paste the content provided. For those new to writing newsletters or seeking a refresher, the CRC also recommends reviewing the "Newsletter Considerations" document before beginning.

If clubs have additional questions or content requests, the NAMA Club Relations Committee is available for support. Inquiries can be directed to the Committee via email at clubrelations@namyco.org. The CRC reviews all questions at its monthly meetings and will provide timely responses.

NAMA Affiliated Club Spotlight

Meet the Newly NAMA-Affiliated Rhode Island Mycological Society (RImycoS)!

KRISTA WILLMORTH, CLUB RELATIONS COMMITTEE

A group photo from the first Rhode Island Fungi Fair.

RHODE ISLAND MYCOLOGICAL SOCIETY

At just under three years old and founded in the smallest U.S. state, the Rhode Island Mycological Society (RImycoS) is already making big contributions to mycology and fungal conservation. Thanks to their enthusiastic volunteers and focus on networking and outreach, RImycoS has overcome many challenges typical for new clubs. I picked up several fresh ideas from a recent conversation with RImycoS Founder and President Deana Tempest Thomas that I hope you will find inspiring too!

Recent RImycoS foray.

So, how does a new mushroom enthusiast, in a state with less than 1% of its area held in public lands*, form a club and find places to collect and study fungi? By connecting with the wider mycological "family" of course!

RImycoS is like a mycorrhizal relationship in action! The founding members figured out how to exchange their abundant enthusiasm and curiosity about fungi for the expertise and land resources they initially lacked. This mutually beneficial relationship has created a robust mycological community in and around North Scituate, RI, where the club is based.

As they say on their website, RImycoS aims to serve "as a link between scientific inquiry and public awareness, dedicated to promoting ecological literacy for all." The club collaborates with state land-trust organizations, conservation groups, nature conservancies, natural history groups, schools, Native American tribes and private landholders, among others.

RImycoS frequently organizes guided walks on properties provided by partners or landowners where the club surveys an area and documents macrofungi with the help of club members (and sometimes visiting mycology experts). Deana says landowners have appreciated being given a list of the species identified on their property.

Check out RImycoS' impressive iNaturalist project documenting various such forays—nearly 6,500 observations, with over 900 different species observed since January 2022!

Deana notes that these partnerships have been critical for networking and filling gaps in the area's ecological understanding. The club's focused outreach has efficiently connected with others interested in studying and documenting local species diversity throughout the state. It also introduced new members to the club and provided a few more "nature nerds" to help "explore and document the fungal diversity of [Rhode Island's] backyards, parks and forests."

One of RImycoS' youngest members.

From their first event in October 2021—a rainy fall fungi walk with just five attendees—RImycoS has grown to about 100 households!

Deana's initial leap into mycology was inspired shortly "B.C." (Before COVID), when she found "an interesting purple mushroom" and joined a local online foraging group to help identify it. During that process, Deana says she became aware of a citizen-science movement to document fungi that were being "sort of left out of conservation work." (That was the MycoFlora Project, which morphed into FunDiS). Eventually, she joined the Boston Mycological Club in "nearby" Massachusetts (the nearest active club she could find at the time). Deana credits several BMC members with providing the knowledge and encouragement to start her own club. Way to go BMC!

"Most of [the BMC walks] were two hours or more away from my home but I didn't mind. I was very eager to be around mushroom people and to walk in the woods with them, so I was going up there that first year and it was a lot of travel, so I thought, why not start a club here? You know, there must be other local people that are as eager to learn as I am."

Deana reached out to fellow Rhode Islander and NAMA Culinary Arts Committee member Spike Mikulski to ask if he would help share his expertise on

some guided mushroom walks for people closer to home. He agreed and with their first walk in October, the club was off and running!

That first year, the club focused on very small walks and raising awareness about the need for fungal conservation. "Obviously edibles are wonderful and we all love them, but looking at that bigger picture of what are [fungi] doing in the environment, and getting people to acknowledge the ecological roles that fungi can play was very important," Deana says.

A RImycoS event at Providence Library.

RImycoS used its new Facebook group to spread the word and eventually partnered with organizations like the Rhode Island Natural History Survey. These relationships allowed them to educate an even broader audience about fungi and their ecological roles.

Deana, at first hesitant about what she describes as her "just-the-basics" knowledge, was "terrified" about speaking publicly or leading a mushroom walk. Eventually, she found that her enthusiasm and curiosity were the most valuable assets. "It's not about having all the answers," she says, "it's about sparking that curiosity in others," now calling the club and its many activities her "favorite thing in the world."

Though they're still working on a regular meeting schedule, RImycoS has been involved in several projects and events, including

- Pulaski State Park Walk
- Glocester Land Trust Walk
- Recording fungal diversity with iNaturalist and the Northeast Rare Fungi Challenge (Check out this fun story about the club's "Youth Ambassador" making a rare find!)
- The inaugural first Rhode Island Fungi Fair (RIFF)

Even in cold northeastern winters, RImycoS seeks out fungi.

- Organizing "Mushroom Mingle" meetings to kick off the mushrooming season
- Training community partners to use iNaturalist to document fungi
- Forming a Conservation Committee and inviting local partners
- Partnering with museums and libraries to host mushroom art events
- Hosting microscopy workshops led by Patrick Verdier
- Planning even more events for the rest of the year!

For others hoping to initiate similar projects, please know that as long as you access help (which you will find from other affiliated clubs or on NAMA's speakers bureau page) you don't need to be an expert to start a successful club!

Speaking of help, Deana recommends asking for it sooner than later because "mushroom folks, we love each other. People have freely given advice and information and been super helpful when I was afraid and sort of shy and didn't want to ask. Once I did, I realized that I should have just asked sooner."

RImycoS obtained 501(c)(3) nonprofit status in February 2022 and is now also affiliated with the Northeastern Mycological Federation and the Northeast MycoConsortium. Led by a six-person "Mushroom Council," RImycoS offers memberships at $20 per year for those living at the same address. Check out the benefits of RImycoS membership here and join online if you would like to support this club.

RImycoS has built up impressive momentum in a short time and is looking forward to recruiting even more volunteers to help run the club and support another mission: "We're just trying to reach as many people as possible to let them know just how magical mushrooms are."

*(Source: US Congressional Research Service: "Federal Land Ownership: Research and Data

NAMA Eats

Unlock the Culinary Secrets of Mushrooms and Elevate Your Gastronomic Experience

Chopped-style Culinary Arts Challenge Finalists Announced

JULIE SCHREIBER, CULINARY ARTS COMMITTEE CHAIR

photos by contestants

NAMA's Executive Committee put out a call for each committee to come up with a unique strategy to award a scholarship to attend the 2024 NAMA Annual Foray, Pacific Northwest NAMA Camp. NAMA's Culinary Arts Committee (CAC) discussed bringing back the *Chopped*-style Challenge since we got such a positive response last year.

At one of our committee meetings, we brainstormed and came up with our list of ingredients. We wanted to make it relatively easy for people to have the ingredients on hand but also to be a challenge to use them together. We based the contest rules on challenges we had seen on the popular *Chopped* tv show.

Submissions were made either directly to CAC via email or by posting on social

media to Instagram or Facebook with a hashtag so they could be easily found by the judges. Since we weren't able to taste the actual dishes, this was really a contest about creativity and presentation.

Contest rules required all ingredients to appear in the final dish, along with any other ingredients of the contestants' choosing. The required ingredients were mushrooms (fresh or dried, wild or cultivated), miso, cream cheese, potato chips, maple syrup and parsnip roots.

Contest judge Zachary Williams-Hunter shares, "The common thread in all my choices is a complicated and well–thought-out process involving multiple components that come together to make the dish." Dr. Gordon Walker's criteria for selecting finalists is "based on how much I would want to eat these dishes and the flow of information in the recipe." Culinary Arts Committee Chair Julie Shreiber notes, "We had a tie between the top two recipes. So, we had to ask for other folks to vote. This one was very close!"

You can view all the impressive contest submissions and recipes by searching Facebook or Instagram using hashtag #NAMAChopped2024. Each member of the Culinary Arts Committee selected their favorite three submissions overall and then those votes were tallied to select the finalists, as follows:

THIRD PLACE FINALIST

Miso Maple Parsnip Cake

by Kelly Hutzel

This cake features cinnamon cream-cheese frosting with a potato-chip crumble and chocolate candied wood-ear mushroom. Says Chef Spike Mikulski: "Going the dessert route in this contest is tough with wild mushrooms and even tougher with the ingredient list we provided; Kelly Hutzel deserves props! Also, in my opinion the photos submitted for the cake had the best plate presentation."

Instructions for Candied Wood Ears:

1. Soak your dried wood ears in warm water until they are large and jelly-like. Drain off the water.
2. Cover rehydrated mushrooms with a fruity tea or juice and let them marinate for a few hours or overnight if you have the time.
3. Drain off the liquid again and place mushrooms on a towel to soak up excess liquid.
4. Move mushrooms to a pan lined with parchment paper and put in the freezer to harden the wood ears.
5. Empty bag of chocolate chips in a glass bowl and place the bowl in a pan of water to create a double boiler.
6. Briefly warm the chocolate until it is melted.
7. One by one, dip the cold wood ears into the melted chocolate and place them back on the lined pan. You may need to re-melt your chocolate as needed.
8. Place the tray back in the freezer until you are ready to decorate the cake.

Ingredients for the Candied Wood Ears:

- 1 ounce dried wood ear mushrooms (rehydrates to about 2 cups)
- 4 cups of juice or tea
- 1 cup of chocolate chips

Instructions for Cake:

1. Preheat your oven to 350°F. Grease two 8 inch round layer cake pans.
2. In a large bowl, add all the dry ingredients except the sweet potato chips (flour, cinnamon, ginger, baking powder and baking soda)
3. In a separate bowl, add the remaining wet ingredients.
4. Gently combine the dry mixture into the wet mixture.
5. Pour the batter into the cake pans.
6. Bake for about 45 minutes. Test the center for doneness with a toothpick or fork; It should have moist crumbs attached.
7. Cool the cakes thoroughly before evening off the tops with a long knife.

Ingredients for the cake:

- 3 cups all-purpose flour
- 2 tablespoons of cinnamon
- 2 tablespoons of ground ginger
- 1 tablespoon of baking powder
- 1 teaspoon of baking soda
- 1 cup melted butter or coconut oil, plus more for greasing the pans
- 1 and 1/2 cups of maple syrup
- 1/2 cup of miso paste
- 4 large eggs
- 1 pound of grated parsnips, cored and peeled first
- 4 tablespoons of orange zest
- 1/2 cup of milk
- 4 teaspoons of vanilla extract
- 3 cups of crumbled sweet potato chips

8. While cakes are cooling, mix the cream cheese and powdered sugar well.
9. When layers are ready, add icing between the layers and to the top and sides.
10. Pat the sides with small handfuls of the sweet potato chips, gathering up what doesn't stick to the icing. Feel free to save one whole chip for the center.
11. Add the candied wood ears around the base and on the top in the middle as you wish.

Ingredients or the Icing:

- 8 ounces of cinnamon raisin cream cheese
- 4 tablespoons of powdered sugar

SECOND PLACE FINALIST:

Hot Miso-Glazed King Trumpets

by Crystal Katanharoen

From Chef Spike Mikulski: "this dish employed every ingredient of the challenge as a distinct component, each prepared in a style to complement each other as assembled on the dish. The sear of the roasted *Pleurotus erynigii* was a memorable touch."

Instructions and Ingredients for Hot Miso-Glazed Trumpets (*Pleurotus eryngii*)

1. Cut king trumpets in cut in half and score
2. Rub and marinate in a miso hot sauce (1.5 tablespoon miso, 2 tablespoons truffle hot sauce)
3. Bread the back half of each mushroom with a breadcrumb mixture consisting of 30% panko, 50% potato chips, 20% parsnip chips

4. Place mushrooms on baking sheet and pop into oven at 375°F for 20 minutes; flip mushrooms and roast on the front side for another 6 minutes.

Instructions for Maple Butter Roasted Parsnips:

1. Preheat oven to 375°F
2. Peel parsnips & cut into small wedges. Lightly coat in 1 tablespoon olive oil and sprinkle of salt. Place on baking sheet & put in oven for about 30 minutes, flipping halfway for nice brown color.
3. Prepare 1 tablespoon of maple syrup & one-half tablespoon of butter in mixing bowl. Add the roasted parsnips into bowl and toss with maple butter mixture. Sprinkle with salt and put back into oven for about 6 minutes.

Instructions for Miso Chive Cream Cheese:

- 1 cup whipped cream cheese
- 1/2 tablespoon miso
- 2 tablespoons goat cheese
- Pinch of finely chopped chives
- Whisk together for 30 seconds

Instructions for Parsnip Chips (garnish & used in breadcrumb mixture):

1. Heat pan with vegetable oil to medium/high heat
2. Peel parsnip and with the peeling tool, peel into ribbonlike strips
3. Toss/coat parship ribbons in flour
4. Take out when nice brown color and toss with salt

Instructions for Beet Purée:

1. Cut 1 cup beets into small cubes & boil in hot water until soft
2. Throw into blender to purée (with some beet juice from boil)
3. Add cold knobs of butter while blending about 1.5 tablespoons until smooth and desired consistency; save a few for garnish.

Instructions Sautéed Shimeji Mushrooms Garnish:

1. Sweat mushrooms in pan with no oil for about 7 minutes, making sure each side gets a nice brown color; when ready, toss in half a tablespoon of butter, a dash of thyme & salt

Plating Instructions:

1. Spread beet root purée in the middle of the plate
2. Place roasted parsnips in criss-cross pattern (moving from back to front), then lay king trumpet mushrooms in the same fashion, followed by the roasted parsnips again.
3. Place beet root here and there to compliment the mushroom
4. put miso cream cheese in piping bag and squeeze sporadically to compliment other items on plate
5. Add shimeji mushrooms, parsnip chips, micro basil & micro amaranth as garnish

FIRST PLACE FINALIST:

Crispy Maple Chip Mushrooms with Polypore Parsnip Pasta in *Morchella* Miso Cream Sauce

by Ashley Laman

"This recipe had so many different mushroom components infused—mostly polypores, which held my attention; seeing young *Ganoderma tsugae* as an ingredient for the dish is top notch and not one you see often used. It

is one of my top-choice spring edibles"—Chef Spike Mikulski. Chef Julie Shreiber: "The glazed trumpets recipe had beautiful photos and folks would definitely want to eat that dish. But the pasta dish was so creative. Folks on the Culinary Arts Committee thought it was something they would want to learn how to make." Yearns contest judge Julie Trotta, "I only wish we could have tasted this winning entry. The pasta is an amazing idea, as is using a not-so-commonly-eaten mushroom."

Ingredients:

- Marinade for *Ganoderma tsugae* and *Laetiporus sulphureus*
- 2 oz fresh young *Ganoderma* tips
- 2 oz frozen/thawed *Laetiporus*
- 2 tbsp ashi, miso paste
- 2 tbsp mirin
- 1 tbsp shoyu soy sauce
- 1 tbsp maple syrup
- 1 tsp minced ginger
- 1 tsp sesame oil

Maple Chip Breading for *Ganoderma*/*Laetiporus*:

- 1 cup rippled plain potato chips
- 1/4 cup panko breadcrumbs
- 1 ½ tbsp maple syrup
- 1/2 tsp garlic powder
- 1/4 tsp pepper

Preparation:

1. Marinade for *Ganoderma* and *Laetiporus*:
2. Mix miso paste, mirin, soy sauce, maple syrup, minced ginger and sesame oil in a bowl.
3. Add *Ganoderma* tips and frozen/thawed *Laetiporus* mushrooms, coating them well.
4. Place the mixture in an airtight container and refrigerate overnight or for at least 3 hours.

Morchella Miso Cream Sauce:

- 8 oz water
- 1/3 cup dehydrated Morchella
- 8 oz cream cheese (at room temp)
- 1 tbsp unsalted butter
- 1/2 tsp garlic powder
- 1/2 tsp onion powder
- 2 tbsp dashi, miso paste

Polypore Parsnip Pasta:

- dehydrated polypores (e.g., *Grifola frondosa, Cerioporus squamosus, Meripilus sumstinei*)
- 6 cups water
- 1 tbsp salt (for water)
- 2 or 3 large parsnips
- 3 eggs
- 2 1/2 cups flour
- 1 tsp salt

Optional Garnish:

- fresh greenbriar (*Smilax*) tips

Breading for *Ganoderma/Laetiporus*:

- Using a food processor, blend rippled plain potato chips, panko breadcrumbs, maple syrup, garlic powder, and pepper until the mixture reaches breadcrumb consistency.
- Dehydrate the mixture at 190°F for 6 hours.

Preparing the *Ganoderma/Laetiporus*:

1. After marinating, drain the mushrooms.
2. Add breading and mushrooms to a bag and shake until well coated.
3. Place the coated mushrooms on an air fryer rack and cook at 375°F for 6-10 minutes.

Morchella Miso Cream Sauce:

1. Boil 8 oz of water and pour over the dehydrated *Morchella*. Cover and steep for about an hour.
2. Separate the liquid from the mushrooms, reserving both, and chop the mushrooms.
3. Melt butter over low to medium heat. Add cream cheese, garlic powder, onion powder, and miso paste, stirring until melted.
4. Slowly add the *Morchella* broth to the cream cheese mixture until a smooth and creamy texture is achieved. You may not need all 8 oz of the broth.
5. Cover and set aside until the pasta is ready.

Polypore Parsnip Pasta:

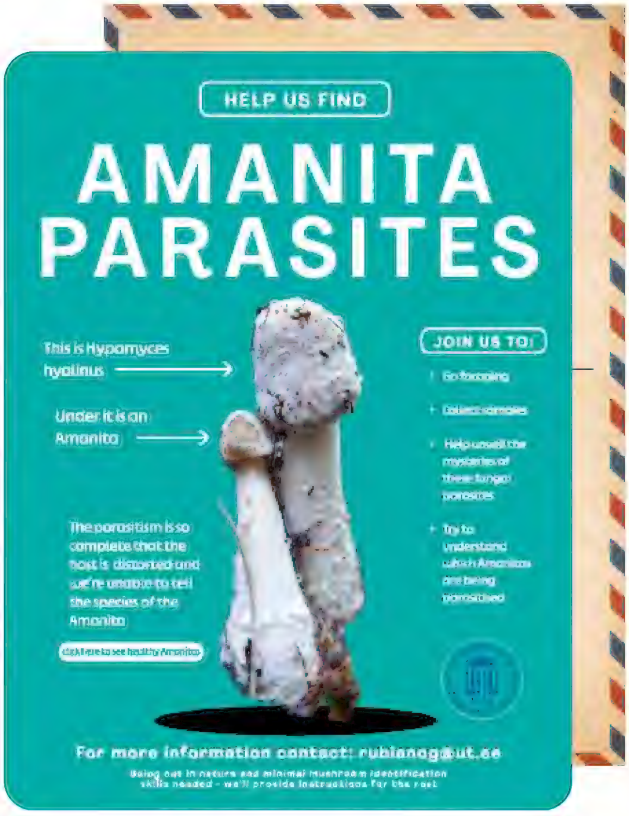
1. Bring 6 cups of water, salt, and dehydrated polypores to a boil.
2. Add parsnips and reduce heat to a low boil until tender, about 7-10 minutes.
3. Strain out the mushrooms and parsnips, reserving the liquid. Finely chop 1 tbsp of each type of polypore used in the broth. Set aside.
4. Puree the parsnips. Using a food processor, blend 1/2 cup parsnip puree, chopped polypores, eggs, and salt. Once blended, slowly add flour, using the pulse button, until dough forms.
5. Turn the dough onto a lightly floured work surface and knead for a couple of minutes until smooth. Form into a round disk, cover with plastic wrap, and let rest at room temperature for 30 minutes.
6. Divide the pasta dough into 4 pieces, keeping them covered. Roll out each piece using a rolling pin on a floured surface until the pasta sheet is very thin but does not tear. Let the pasta sheets dry for 10 minutes.
7. Cut the pasta sheets into 12-inch lengths, sprinkle with flour, and roll up loosely. Using a pizza cutter, trim the rough edges and cut into 1/4-inch wide strips. Unroll and place on a floured sheet pan.
8. Bring the reserved parsnip and polypore water to a boil. Cook the pasta for 2 minutes until al dente, then toss in the miso *Morchella* cream sauce.

Assembly:

1. Top the pasta with crispy maple chip mushrooms.
2. Garnish with fresh greenbriar (*Smilax*) tips if desired.
3. Serve and enjoy!

KADRI PÕLDMAA,
ASSOCIATE PROFESSOR
IN MYCOLOGY,
UNIVERSITY OF TARTU

You can help discover the host range and prevalence of North American *Amanita* parasites by collecting, preserving and sending them to Kadri Põldmaa, Associate Professor in Mycology, University of Tartu in Estonia.


HELP US FIND
AMANITA PARASITES
This is Hypomyces hyalinus
Under it is an Amanita
The parasitism is so complete that the host is distorted and we're unable to tell the species of the Amanita
JOIN US TO:
For more information contact: rubianog@ut.ee

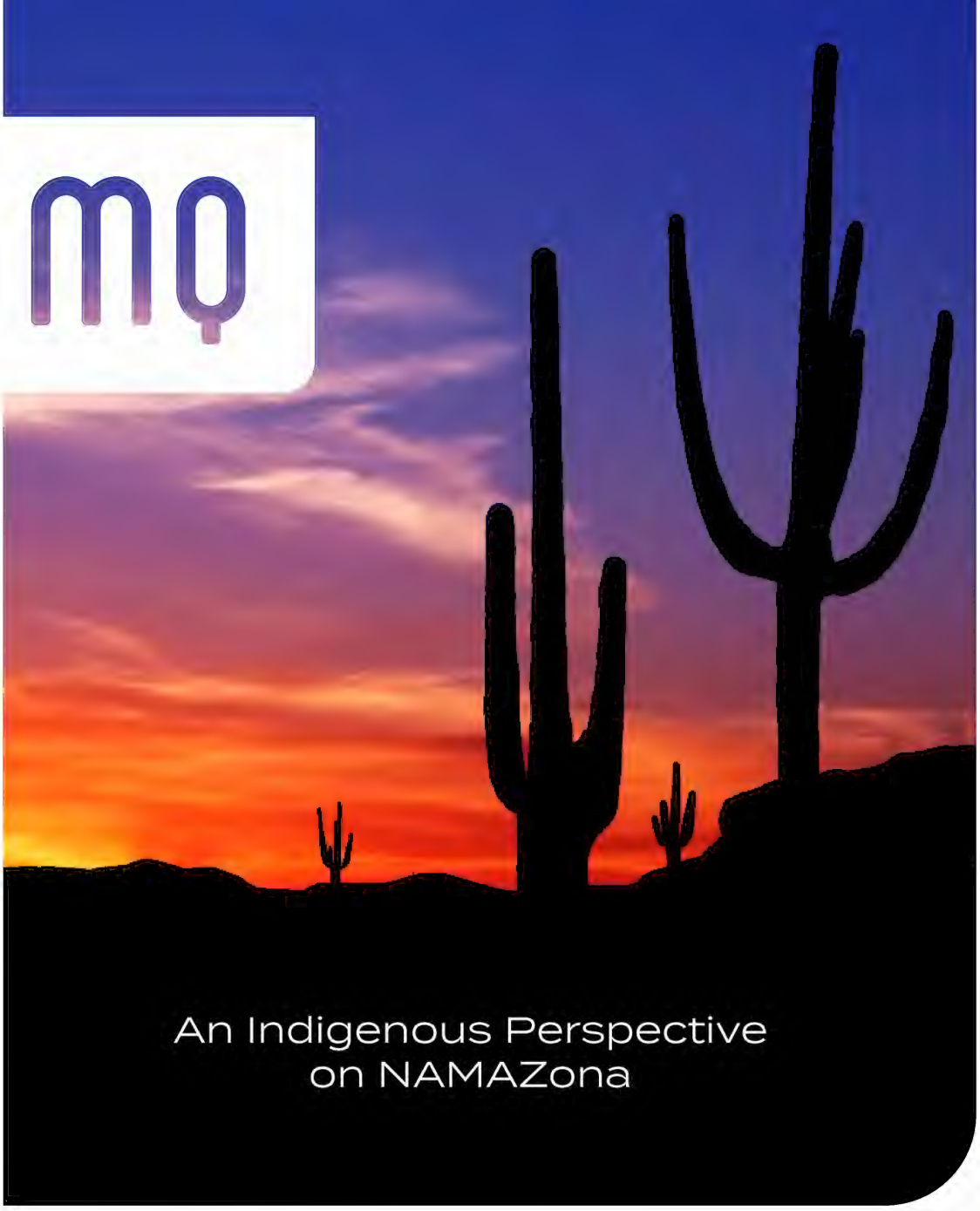
Shipping to a central pickup location is covered for properly collected and preserved specimens.

Põldmaa explains, "*Amanita* basidiomata (fruiting bodies) can sometimes be found mummified: hard in texture, covered by whitish mycelium and with the *Amanita* mushrooms' caps unexpanded. The buff to yellowish or pinkish colors develop along the maturation of perithecia [cup or disc-shaped fruiting body in which asci form], indicating parasitism by *Hypomyces hyalinus* (Schwein.) Tul. &; C. Tul. (Hypocreales). Although common in North America, east of the Great Plains, and extending to northern South America, due to the often complete distortion of the host mushroom, we need to figure out which species of *Amanita* are infected by this parasite."

A related conidial (asexual-spore-producing) fungus known as *Mycogone rosea* can cause similar symptoms in *Amanita* basidiomata but does not produce perithecia on the more pinkish mycelium covering the host.

In a project carried out by the group working on fungicolous fungi at the University of Tartu, we investigate the geographical and host range of parasites of *Amanita*. We are inviting foragers to collect and document parasite-infected as well as nearby intact *Amanita* basidiomata, the identity of which will be provided by DNA barcoding. These specimens will help us to understand what defines the distribution of the fascinating associations between these asco- and basidiomycetes. Microscopical examination of collected material will elucidate the life cycle and presence of different morphs in these obligate biotrophs (host-specific parasites).

Instructions on collecting, preserving and sending the material as well as further info and contacts are available by clicking here: https://amanitaparasites.framer.website/

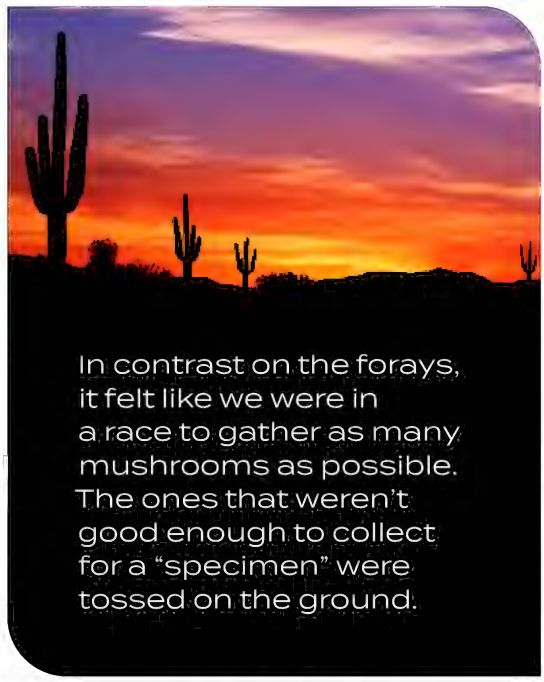


An Indigenous Perspective on NAMAZona

ÁNNA CAVANAUGH,
SOUTH SOUND
MUSHROOM CLUB
NAMAZONA: REGIONAL
FORAY IN ARIZONA
SCHOLARSHIP RECIPIENT

I'm a 42-year-old woman who had a late start with my love and fascination with Fungi.

I joined a local mushroom club in Washington State last year and when I heard about a scholarship to attend a NAMA Regional Foray focusing on the culinary arts aspects of mycology, I submitted my application that very night. I was elated when I received the scholarship and in the high heat of summer I set off to the small town of Strawberry, Arizona to attend the event.



In contrast on the forays, it felt like we were in a race to gather as many mushrooms as possible. The ones that weren't good enough to collect for a "specimen" were tossed on the ground.

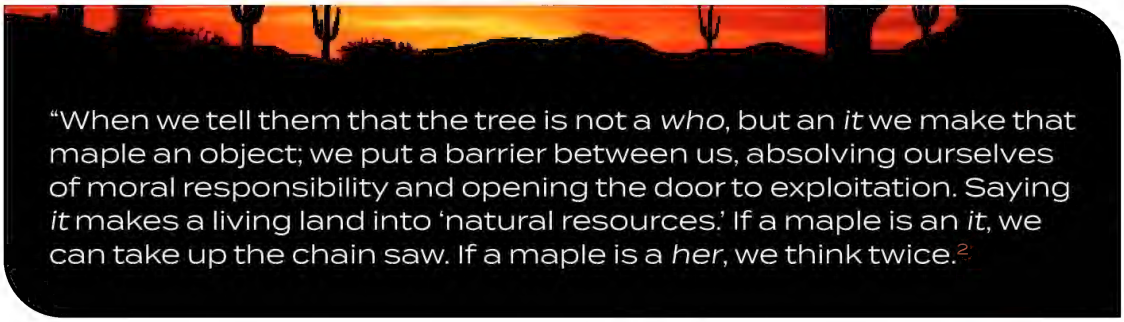
The taste of all the variety of foods was exhilarating. My favorite dishes were the *Amanita* Prickly Pear Salad by Chef Jess Starwood and Sweet Corn Huitlacoche Soup by Chef Chad Hyatt. The Candy Cap Budino dessert created by Chef Julie Schreiber nearly brought me to tears with sheer bliss.

Even more astounding was the number of new friends I made at this foray. My mycology identification skill level is at beginner level but even with basic mushroom knowledge, I felt very welcomed at this foray and had a great time conversing with other mushroom enthusiasts. I can see why folks get so excited about these forays and I look forward to attending more in the future.

While I am very grateful for this opportunity to learn from fungi experts and amazing new friends, there is one thing that I did have a difficult time with: The way in which we approached the forest and gathered the mushrooms. As an Indigenous woman, I grew up walking the Red Road: I made a commitment to living life in the best way possible, with an intrinsic respect for others, myself and creation. This meant that I practiced showing respect to *all* our relations. An Elder taught me that when we gather plants not to take all of them but to leave the majority behind so they can reproduce, feed the animals and help the other plants to thrive. I learned to say a prayer before gathering, to introduce myself to the plant and to make an offering of tobacco or water.

In contrast on the forays, it felt like we were in a race to gather as many mushrooms as possible. The ones that weren't good enough to collect for a "specimen" were tossed on the ground.

I don't see fungi as a "specimen," I see them as our friends who helped the existence of the Earth to forge on. As Professor of Anthropology Michael Hathaway writes in *What A Mushroom Lives For*, "the connections between fungi and plant roots in what is called a mycorrhizal relationship has become one of the planet's most fundamental relationships because fungi are critical to the flourishing of nearly 95% of the plants around us."[1] The way that we communicate with and view our fellow Fungi friends matters. Professor of Environmental Biology Robin Wall Kimmerer explains in her book *Braiding Sweetgrass* how the English language reduces all nonhuman relations to things. She writes:



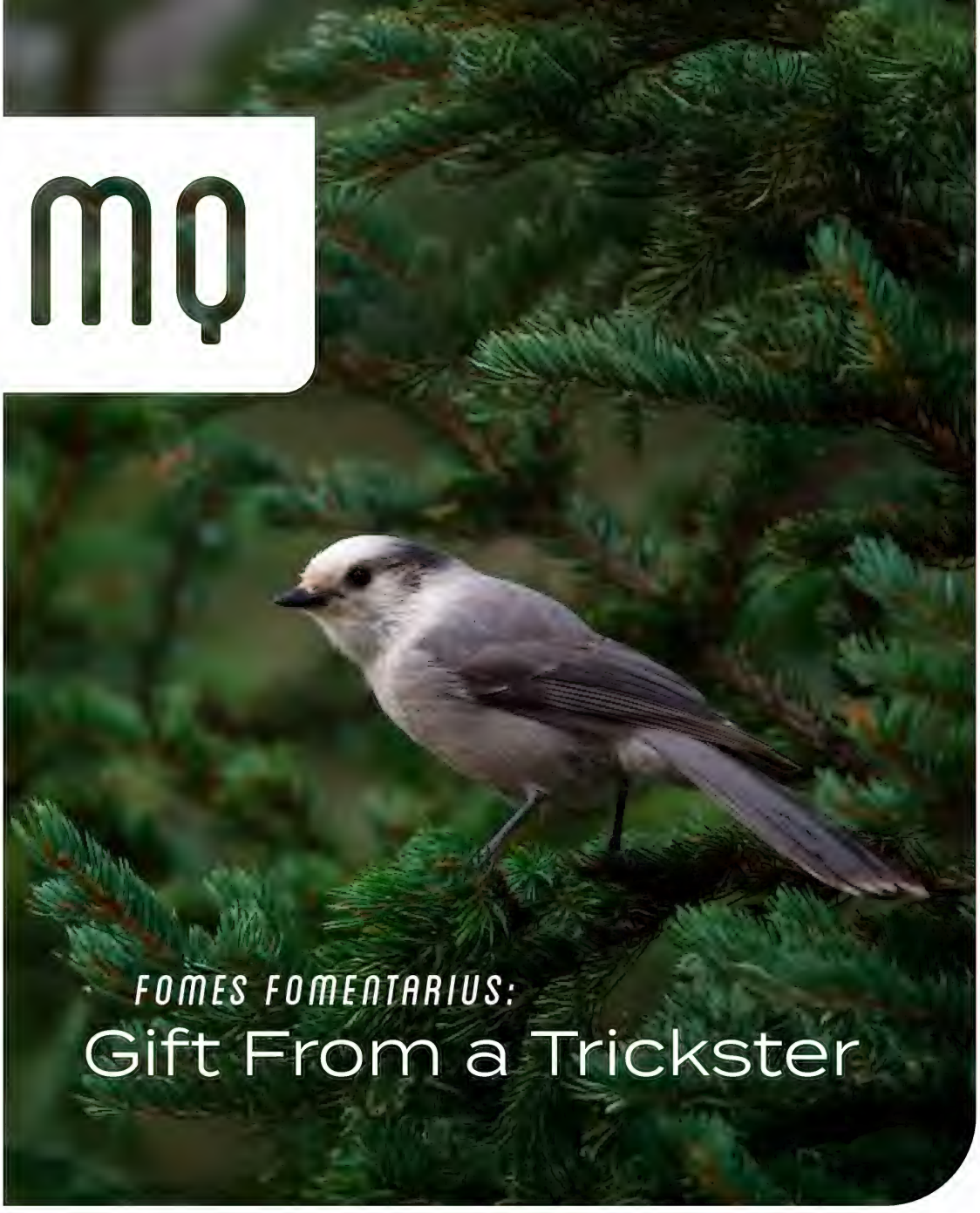
"When we tell them that the tree is not a *who*, but an *it* we make that maple an object; we put a barrier between us, absolving ourselves of moral responsibility and opening the door to exploitation. Saying *it* makes a living land into 'natural resources.' If a maple is an *it*, we can take up the chain saw. If a maple is a *her*, we think twice.[2]

There are ways we can show our respects to the land when we go on our forays. We can give a nod, privately or out loud, to the specific Tribe or Nation whose traditional/ancestral/unceded lands we are visiting. We can be mindful where we are walking, so we are not trampling delicate vegetation. We don't have to take all the mushrooms we find in one area. We can carry a basket to allow the spores of the mushrooms we gather to disseminate in the air and help produce more mushrooms, instead of brown paper bags or the waxy little bags we were given. And always being mindful of how we are communicating to and about them.

I arrived at this NAMA Regional Foray without much mycological knowledge, but with the fundamentals of respecting the land and our plant kin, thanks to my Elders. I hope that by sharing these ideas and practices with my fellow mushroom lovers, we will begin to transform our relationship with our fungi kin and enhance the foray experience. It's my offering in gratitude for everything the forest and my new friends have given me.

1 Hathaway, Michael J. *What A Mushroom Lives For.* Princeton, Princeton University Press, 2022. pg. 11.

2 Kimmerer, Robin Wall. *Braiding Sweetgrass.* Milkweed Editions, 2013. pg. 57.



FOMES FOMENTARIUS: Gift From a Trickster

LAWRENCE MILLMAN

Like other members of the family *Corvidae*, the National Bird of Canada, also known as grey jay or Canada jay *(Perisoreus canadensis)* has a well-deserved reputation for being a trickster.

To validate the mischievous behavior of *P. canadensis,* I'll describe an experience I once had outside Dawson City in the Yukon.

I'd picked up an interesting mushroom but, before I could identify it, a Canada jay swooped down, grabbed it out of my hand and flew to the branch of a nearby tree. Was it my imagination or did it seem to be gazing down at me with an amused look on its face? When I approached, it flew to a slightly higher branch on the tree. When I moved closer, it flew to a branch on a nearby tree. "Okay then, YOU identify the mushroom!" I shouted at it and stalked away.

This annoying avian inspired the Cree people in northern Canada to create a trickster figure known as Wisahkicahk (or Wisagatchuk, Wesaykaychak or Wiskenjak, depending on the dialect). That name has been anglicized as "Whiskeyjack" (also "Whiskeyjack Man"), a moniker easier to pronounce for folks who don't happen to speak the Cree language. Like other trickster figures such as Coyote, Wolverine and Glooscap, Whiskeyjack combines a sharp intelligence with a devil-may-care attitude and clownish behavior.

Once upon an earlier time I heard an *atayohhkewin* (traditional story) from a Swampy Cree elder in Peawanuk, northern Ontario, that would seem to credit the trickster in question with creating at least one fungal entity; here is that story:

One day, Whiskeyjack was hungry but not for caribou, moose or snowshoe hare. He wanted to eat geese and, as luck would have it, half a dozen ganders were just

then flying directly over his head. "I've got some very cute lady geese for you," he yelled up at them, "but you'll have to come down here to get them." The ganders eagerly flew down to the ground, whereupon Whiskeyjack quickly wrung their necks, plucked them, built a roaring fire and tossed the geese onto it. All this effort made him a bit tired and he decided to take a nap while the geese were roasting.

Knowing that foxes have a tendency to steal geese, Whiskeyjack asked his reliable other half—his bottom—to watch out for these sly creatures while he dozed. His butt agreed to do so, but it turned out to be just as sleepy as he was and so it took a nap too. Meanwhile, some foxes came along and saw the geese in the fire. "Ah, we won't need to cook them ourselves!" said the foxes as they spirited the geese away.

When Whiskeyjack woke up, he was even more hungry than before—but where were his delicious geese? The fire was still burning and he saw fox tracks all around it; no wonder the geese were gone. Then he heard his formerly reliable back end "snoring" and knew the reason the geese were gone. "I'm going to teach my formerly reliable behind a lesson it won't soon forget!" he told himself.

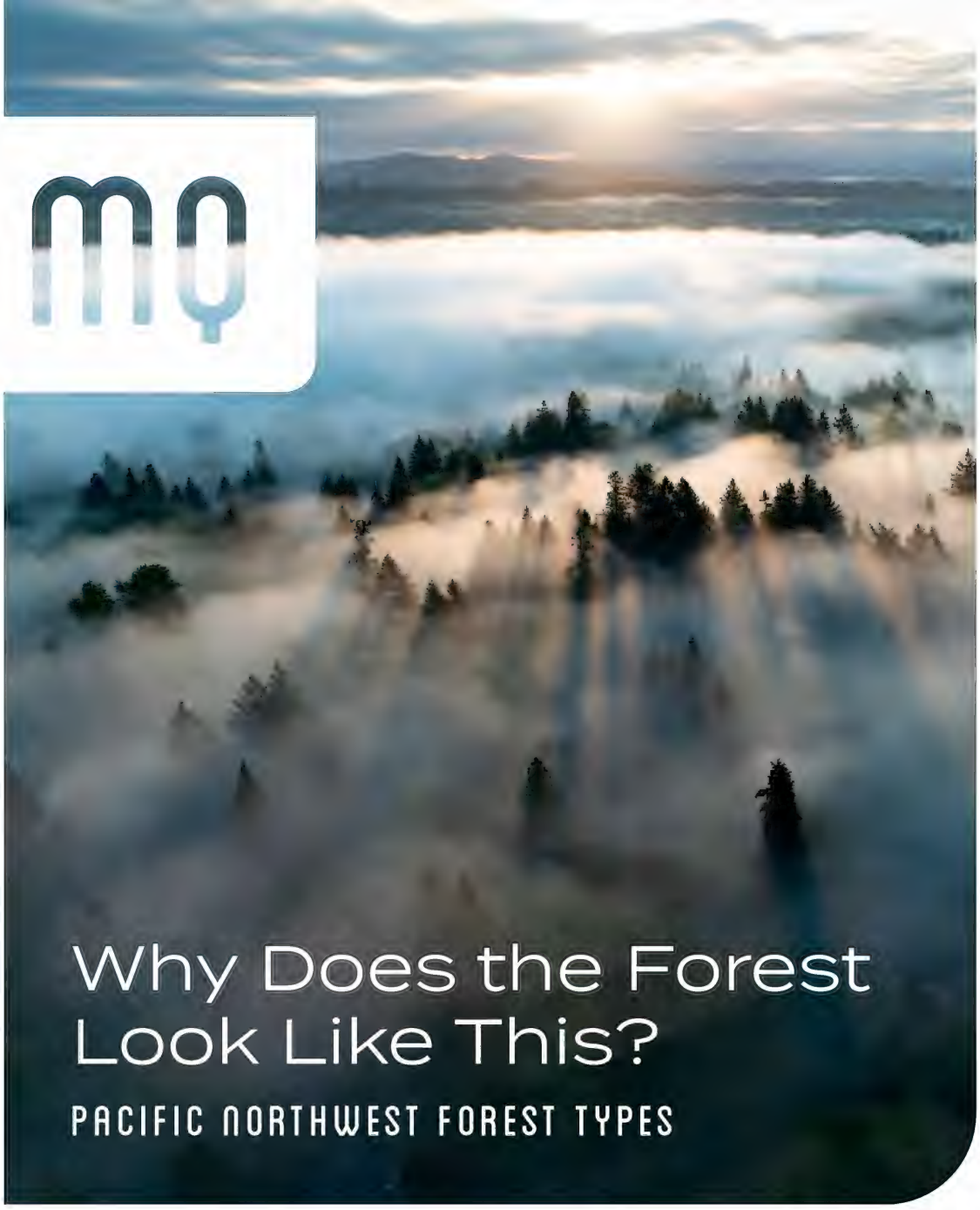
Now the storyteller interrupted his narrative. "Do you have any idea what that lesson might have been?" he asked me.

"Maybe... he… spanked himself?" I suggested.

The storyteller shook his head and went on with the story. What Whiskeyjack did was… he sat right down on the fire! His bottom cried out in pain, screaming, "You're killing me!"

"Well, you should have kept an eye out for foxes," Whiskeyjack replied, and he continued sitting on the fire until his back end was burned to a leathery grey crisp. Then he rose to his feet, took a chunk of his now-hardened bottom and flung it against a birch tree. "Let this become a *posakan* (tinder conk)," he declared, adding, "and from now on, people will use it as a fire-starter."

That's the end of the traditional Cree tale. I dare say that most individuals wouldn't have known until now that the so-called tinder polypore (*Fomes fomentarius)* came from a trickster's ass.



Why Does the Forest Look Like This?

PACIFIC NORTHWEST FOREST TYPES

REGINA JOHNSON
SOUTH SOUND MUSHROOM CLUB (SSMC) FORAY COORDINATOR, SOUTH SOUND CHAPTER, WA NATIVE PLANT SOCIETY CHAPTER BOTANIST

Look around you when you're wandering the forests of the Cispus area, or anywhere along the Pacific Coast. Look at the relative sizes of the trees around you, and what species they are.

Are they all Douglas-firs (P*seudotsuga menziesii*) of roughly the same size, or do you see a mix of species and/or sizes? Are there snags (standing dead trees taller than 6 ft)? Are there stumps (remains of dead tree shorter than 6 ft)? Look closer at the stumps: were they created by cutting or did the tree break off? How big are the stumps: were they old-growth trees, or younger? You can learn a lot about the history of a forest by noticing details like these. If you know the ecology of the different tree species and can estimate the age of a tree even just generally as "young" or "mature," you can put the pieces together into the story of the forest.

For instance, you'd be able to tell if a forest was old-growth or mature second-growth, or commercial timber. You'd want to know that before deciding where to mushroom hunt. Has there been a fire on this parcel while these trees were alive, which will produce fungi that like burned wood or soil? A big windstorm or snowstorm maybe? That would be really hard to move through, with many dead trees on the ground. You might even be able to tell that a forest had started over from scratch after a long-ago wildfire or other disturbance like a flood, landslide, storm or logging. Did it regrow on its own or was it replanted by people?

Old growth is what most people are interested in, so let's start with what qualifies as old-growth. An old-growth forest should have some old-growth individuals

and also younger trees of all different ages. How old a tree has to be to be considered "old-growth" depends on the species and its typical lifespan; alders (*Alnus*), for instance, don't live very long, so we jokingly call an 80-year-old alder "old-growth." Douglas-fir, on the other hand, can live to be 1,000 years old, so a Douglas-fir tree wouldn't be considered "old-growth" before two or three centuries, well beyond the lifespan of any alder.

An old-growth forest, though, is not composed just of old-growth trees. All ages of trees represented, usually by a mix of species. There should be lots of snags and fallen logs, stumps of broken-off trees, tip-ups (trees that blew over with the roots coming out of the ground—look for dyer's polypore!—hemlock and huckleberry seedlings growing on logs and stumps, gaps in the tree canopy creating meadows or shrubby areas, and a varied understory, which in our area can contain a lot of nonphotosynthetic mycoheterotrophic plants like ghost pipe (*Monotropa uniflora*) and candystick (*Allotropa virgata*).

In the Douglas-fir forests typical of western Washington and Oregon, the understory leans heavily towards a hemlock and true fir understory. Douglas-fir trees will not grow in the shade. They need full sun to grow, as found after clearcutting, severe wildfire, or volcanic eruption. Hemlock, cedar, and true firs (*Abies* as opposed to *Pseudotsuga*) will grow in the shade, so they come up under the Douglas-fir and eventually replace them as the Douglas-firs age out and die off. Wildfires will clear out the hemlock, cedar and firs, though, as these trees are not fire tolerant; once fire has cleared the ground again, the Douglas-firs start the cycle over.

You might notice that our foray-site descriptions for Cispus might say "mature forest" or "mature second growth" or "mature naturally regenerated second growth." What do those terms mean? Answer: not old-growth! These forests were logged or burned, generally over a century ago, and have regrown. The trees are not young anymore but are developing mature characteristics (just like people do!) and the understory is developing complexity too. We assume that the fungal community is also developing complexity in the process. Mature second-growth Douglas-firs and cedars can be absolutely huge, to eastern-North-American eyes—but they're not old-growth just yet.

Loggers cut a notch into which they insert the springboard, which is then used as a platform, allowing the logger to stand above obstructions/snow or to cut higher-up where the trunk is narrow. Then again they just might be the eyes of the forest.

Through observation, you can make an educated guess as to what happened to the previous forest. Really tall stumps with springboard notches have resulted from when the earliest loggers cut the old-growth with the hand tools that were typical of the late 19th through early 20th centuries. The trees here were so big that hand tools couldn't cut through the trunk bases, so the loggers had to climb up higher and drive wedges into the tree trunk to stand on while cutting the tree. Springboard-notched stumps with charcoal on them mean the site was burned after the trees were logged (maybe deliberately, maybe accidentally).

Taller snags with charcoal mean the site burned, whether in a wildfire or a land-clearing fire. During this time period, there were basically no regulations on logging at all, so timber owners would literally cut and run. No replanting was done. These sites are where you get what's called "naturally regenerated" second-growth forests, where the forest was left to regrow on its own, producing a mix of species, depending on what grew naturally in the area, as well as a mix of spacing between trees and ages of trees.

Power chainsaws were introduced starting in the 1930s and produced shorter stumps as the loggers were cutting trees closer to the ground, so the stumps might be 3 to 4 feet tall. During that time period, the states started requiring that forested sites be replanted after logging, since the forest didn't always come back on its own. Replanting yields a forest that's more heavily limited to one species, usually Douglas-fir, aka "the money tree." Left alone, these forests can develop into complex forest ecosystems. However, intensive management to maximize wood production requires "weeding out" anything that reduces the targeted wood production. Native trees such as bigleaf maple (*Acer macrophyllum*), cascara (*Frangula purshiana*), alder and bitter cherry (*Prunus emarginata*) are removed as weeds. Any herbicides or fertilizers could impact fungal communities, and forest pathogenic fungi are considered to be serious pests—that's your dyer's polypore (*Phaeolus schweinitzii*), pine conk (*Porodaedalea gilbertsonii*) and sulfur shelf (*Laetiporus* spp.), along with so many others.

Modern economics require that timber companies log their forests too frequently for trees to become what we consider "mature." From a wood production standpoint, a Douglas-fir is mature at 40 to 60 years old. Trees are planted from conifer-seedling nurseries to get an "improved" tree that grows faster and more uniformly. Wandering in commercial timber, you can potentially see three sizes of stumps: the big springboard-notched stumps of the old-growth harvest, the

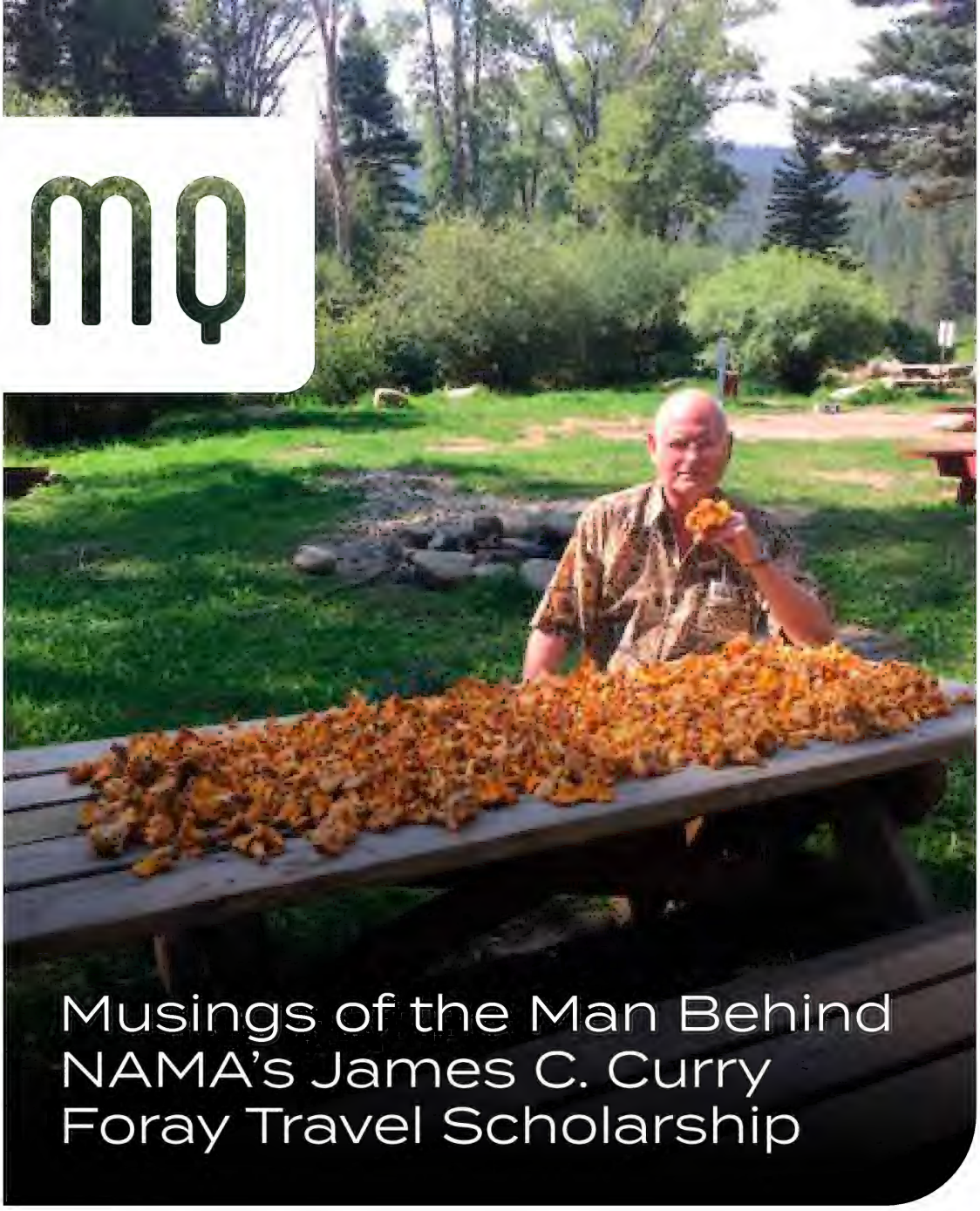
midsized stumps of the later 20th century harvest and now shorter stumps much closer to the ground, cut by machinery (https://www.deere.com/en/forestry-and-logging/). What you won't see in these replanted-commercial-timber parcels is much in the way of biodiversity. There will be fungi, since the trees won't grow without their mycorrhizal associates, but it's going to be a different community than in natural regeneration. The trees will mostly be the same size, relatively evenly spaced, and all nice and straight.

Some of these managed forests do have legacy wood comprised of the stumps, snags and logs from the previously harvested trees. There was a time that forest managers, including the U.S. Forest Service, tried to remove snags and logs as fire hazards, but of course they couldn't get them all. This legacy wood provides the seed bed for plants that like sprouting in rotting wood such as hemlock, spruce, huckleberry and ferns. What's rotting that wood? Fungi, of course! So even on a 30-year-old tree farm, it's possible to find fungal denizens of the old-growth forests, like varnished conk (*Ganoderma oregonense*) and bear's head (*Hericium abietis*), on the big old rotting logs.

Of course, no tree lives forever and forests have always come and gone and shifted around. Most of the original old-growth forests have now been lost to logging, though in the Cispus area you can drive through what had been magnificent old-growth Douglas-fir forests before they were destroyed by the eruption of Mt. St. Helens in 1980. These forests are regrowing, mostly replanted in a massive tree-planting effort after the eruption—but some have been left to regrow on their own, allowing us to watch the process of natural forest regeneration over the decades. There are pockets of old-growth here and there in the national forests, with more in the national parks. With protection, the naturally regenerated mature second-growth forests will develop into true old-growth on their own. The more managed forests can also become old-growth, with protection and some manipulation to allow the forest to develop old-growth characteristics like mixed ages and species.

It's not just a walk in the woods—the more you know, the more you see!

Click here for more information on old-growth and mature forests in Washington and Oregon: Identifying Mature and Old-Growth Forests.

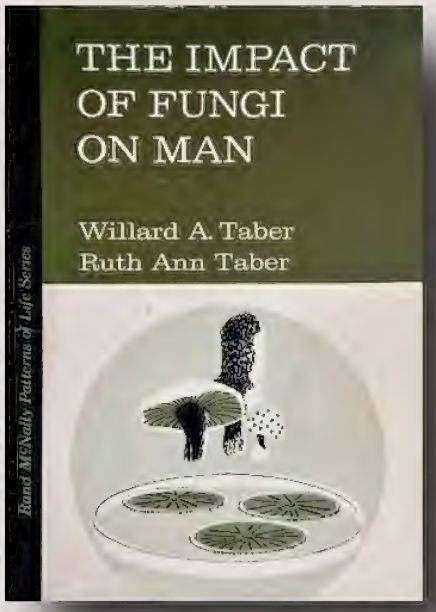


Musings of the Man Behind NAMA's James C. Curry Foray Travel Scholarship

ADAPTED FROM NOTES BY DR. JAMES C. CURRY

Over the summer of 2024, Dr. James C. Curry approached NAMA President Trent Blizzard about establishing a scholarship to provide travel funds that will enable folks to attend foray events.

As noted by Trent in his column, James' generous contribution of $10,000 will enable at least 30 mycophiles to attend events of their choice during the next year! We are deeply grateful for James' generosity and vision and we know you will enjoy learning about his contagiously exciting journey into and through decades of mycological foray fun.



The Tabers' excellent book on fungi.

James C. Curry was born in 1946 in Houston, Texas. Growing up, no one in his life—family, friends or neighbors—knew anything about mushrooms except that they were mysterious and probably dangerous. If the subject of fungi came up, someone would inevitably issue a warning to stay away from those things and by no means eat them because they could kill you. His elementary and high school education were devoid of mushroom education; if there was any discussion about it in high school biology, it was very minimal.

In 1965, he began to attend Texas A&M University where he took a microbiology course under Dr. Willard Taber, an accomplished microbiologist who, along with his lovely plant-pathologist wife Ruth Taber, knew a lot about mushrooms. In the Brazos Valley around Texas A&M, James later learned that there were a lot of Italian families who enjoyed eating local mushrooms but unfortunately he never had any contact with them at the time.

While still a student, he bought a 100-acre ranch in Grimes County: cattle country, with plentiful post-oak trees. One afternoon, Ruth Taber and James drove out to his ranch to look for mushrooms. The property contained about 6 large ponds, surrounded by willow trees; upon walking up to one, he was amazed to discover a huge flush of mushrooms on the side of its trunk. Ruth taught him that these mushrooms were *Pleurotus ostreatus*, oyster mushrooms. They

collected half of a bushel basketful and James found himself absolutely hooked on mushrooms from that day on.

On a weekend visit home from school, he came across a *Houston Post* article about the Texas Mycological Society (TMS) having an annual foray in East Texas. While driving to to event, he noticed some mushrooms at the base of a pine tree; he brought them to the foray, where none other than David Lewis identified them as the choice edible "porcini" *Boletus pinophilus*; sadly, with only three specimens he couldn't eat them at that time. East Texas is blessed with many species of mushrooms and this foray brought in about 225 different species. This diverse abundance was very exciting and James found the foray event to be a great pleasure, with extremely nice, knowledgeable people and wonderful, educational, mushroom-filled woodland walks followed by delicious culinary preparations of foraged fare!

James picked these on his Grimes County, Texas ranch.

James attended many TMS forays over the years, usually the last week of September when the weather would turn from sweltering to sweet. Many very knowledgeable people would be invited to give talks and James fondly recalls David Arora attending; Arora's *Mushrooms Demystified* had a profound impact on him. Gary Lincoff also gave a great talk and helped greatly with identification. James remembers Gary being amazed at the abundant fruitings of *Gymnopilus spectabilis* (now *G. juonius*), a psychoactive species like the *Psilocybe cubensis* that grew profusely along the East Texas coast.

James observed that after about three days of wet weather on his ranch there would be massive flushes on almost all of the cow patties, with hundreds of mushrooms creating an impressively beautiful sight. At a botanical conference in Palenque, Mexico in the early 1990s, he and Paul Stamets went for a stroll in some local pastures and came upon some *P. cubensis*. James told Paul that when the weather conditions were right, his ranch in Texas fruited even more mushrooms than they were then seeing. Paul offered to come out and photograph the event

but by then James no longer lived on the property to monitor conditions and so, alas, they were never able to coordinate the visit. At the same conference, James met Terrence McKenna, whom he describes as "a nice gentleman," who gave him important advice on how to make safe mushroom teas and powders and how to measure in order to optimize his ingestion experiences.

Paul Stamets, Dr. Andrew Weil and Art Goodtimes at Telluride Mushroom Festival.

James' life has been deeply enriched by his study of mushrooms and the forays he has attended; he shares the following select memories with us:

Texas Mycological Society forays (12 years)

"Many accomplished mushroom people attended this foray. Four that come to mind are David Arora, Gary Lincoff, Nancy Smith Weber and Chuck Burrows (the 'old and bold mushroom hunter'). They were all great people."

New Mexico Mycological Society forays (8 years)

"Held at Sipapu Ski Resort, with numerous accomplished mushroom people attending and, of course, Chuck Burrows was always there.

Gulf States Mycological Society (2 years)

David Lewis and Alan Bessette were the main mycologists I remember. Very knowledgeable and helpful.

Telluride Mushroom Festival (4 times)

Paul Stamets, Dr. Andrew Weil, Jonathan Ott and many others gave great presentations and were very helpful. Parties and food at Elks Park were legendary.

Arizona Mycological Society foray

"At the Apache reservation in the White Mountains. Great people and lots of fun. The people in Arizona are a diverse group with lots of experience in many areas. My wife and I attended NAMAZona: Regional Foray in Arizona in August, a remarkable event with lots of great people!"

Boletes outside Telluride were very plentiful.

NAMA Annual Forays: 1992 in Angel Fire, New Mexico and 2011 in Clarion, Pennsylvania.

"Don Huffman was NAMA president and a nice guy. At the Angel Fire foray, he told me an interesting story about his family and friends getting together and finding a quantity of *Gyromitra caroliniana*, which they sauteed and served over steaks; he quickly became violently ill and had to be taken to the hospital. Although everybody had eaten the same mushroom, he was the only one that got sick and this goes to show the truism that people have different reactions to the same mushroom. It's always a great idea when you eat a new mushroom for the first time only to eat a small amount and wait for a reaction. I remember when I was taking a mushroom cultivation course at Fungi Perfecti, Paul Stamets told me the same thing. There was a lot of *Stropharia rugosoannulata* all over his yard; I was picking large quantities and Stamets made the statement that while it was a great edible, one should only consume a small amount because some people have a negative reaction to this mushroom upon trying it. Paul Stamets' mushroom cultivation courses are excellent. Not only did he provide three days of superb teaching on mushroom cultivation techniques but his hospitality was to be remembered. He donated crates of shiitake and maitake mushrooms to a local restaurant and had the chef prepare a fantastic variety of mushroom delicacies.

Personal forays by myself and/or with friends (over 1,000 times)

"My house in Houston was about 6 miles from Memorial Park, which consists of 1,500 acres of mixed forest and hosts a very large variety of mushrooms. I would usually visit three to four days a week, even if I took only an hour and a half for lunch, to get in a quick foray. One day I found an interesting mushroom I could not identify; a member of the club recognized its serrated gills as belonging to *Lentinus*. After looking through several mushroom books, we identified it as "the trainwrecker," *Neolentinus lepideus*. I found it to be an excellent edible and I was happy every time I found one. An interesting story about the trainwrecker: one very dry summer day I was driving in New Mexico and there were no mushrooms to be found. Passing through a clearcut ponderosa pine forest, the beautiful sight came before my eyes of a massive flush of trainwreckers fruiting from the stumps. Even though it was very dry, the stumps were able to wick up water and enable the mushrooms to fruit. I must have harvested a couple of bushel baskets!"

Drying delicious southern boletes on the hot tub cover.

"Another interesting Houston tip: in the summertime, after good rains, you may encounter large flushes of southern boletes such as *Boletus pseudoseparans* and other good edibles. All you have to do is drive your car down a street that has live oaks. Look at the base of live oak trees; you can hop out of your car and harvest large quantities."

"I'm sure you can tell from the enthusiastic thoughts I have shared here that I love mushrooms and going to mushroom forays. These events offer multifaceted experiences that provide a wide range of benefits, from education and environmental conservation to culinary pursuits and social engagement. Having been incalculably benefited by these experiences myself, I decided to work with NAMA to set up a scholarship fund that helps people attend forays so they can learn about the many fascinating aspects and the vast importance of what mushrooms provide for the world."

Thank you, James, for your generosity in sharing these memories as well as making such memories possible for many others!

Mushrooms Before, During and After Pregnancy: What We Know

ANNA SITKOFF, ND

Author's Disclaimer

There is really not enough clinical safety information on the use of mushroom supplements throughout pregnancy and breastfeeding to be certain that they are all safe during this time.

Based on what I have gathered from the research and historical use, I conclude that they are likely safe but of course, please ask your midwife and or OB-GYN about what would be right for you specifically. This article is intended for information purposes only.

What We Know

Mushrooms are more readily accessible as supplements to the general public than ever before in the Western world and they carry a reputation of safety during pregnancy. Indeed, the safety of mushrooms as a food source during pregnancy is seldom disputed, unless there is concern around accurate identification of an individual mushroom itself. You won't find culinary mushrooms on any cautionary-pregnancy-food lists because well-cooked mushrooms are widely recognized as a healthy addition to a diet rooted in whole foods, regardless of one's pregnancy status.

As drying, extracting and encapsulating mushrooms for consumption in more concentrated doses grows in popularity, so does speculation: how safe is it to consume these medicinal mushroom extracts during pregnancy? Unlike their counterparts maitake (*Grifola frondosa*), lion's mane (*Hericium* species), shiitake (L*entinula edodes*) and oyster mushrooms (*Pleurotus* sp.), many medicinal mushrooms such as reishi (*Ganoderma* sp.), turkey tail (*Trametes versicolor*) and chaga (*Inonotus obliquus*) are too fibrous for typical culinary use. This characteristic lands them more definitively in the medicinal category than the food category and, as a result, prompts questions regarding their safety before, during and after pregnancy.

Mushrooms as Food

Numerous "danger" lists outline what to avoid during pregnancy, often more fear driven than fact based—and you won't find mushrooms on any of these lists. Medicinal mushrooms that are also commonly consumed as food—maitake, lion's mane, shiitake and oysters—are not just safe but also highly nutritious; incorporating them into your daily diet throughout pregnancy should not pose any concerns.

Mushrooms as Medicine

It's easier to get a higher dose of bioactive compounds when mushrooms are extracted and encapsulated, begging the key question of this piece: are mushrooms still safe during pregnancy when taken as extracted supplements?

Following is a review of the most relevant research as well as traditional use of mushrooms from the prenatal to postpartum periods.

Prenatal Support

Prenatal support usually has the intention of improving ovulation, regulating hormones, managing stress and ensuring proper nutrition. Mushrooms may be one of the most important foods to consume on the journey to pregnancy—but what about supplements?

Reishi, Maitake and Oyster Mushroom for Prenatal Support

A small clinical trial from 2010 provided women with Polycystic Ovary Syndrome

(PCOS) capsules containing 200mg maitake powder, in addition to 18mg of concentrated MSX (a patented maitake extract from Mushroom Wisdom Inc.) (1). Taken as 3 tablets 3 times daily for a total dose of 1,800 mg maitake and 162 mg MSX, participants improved ovulation to a similar degree as the drug clomiphene citrate, a typical treatment for ovulation induction in PCOS. The ovulation rate with clomiphene in this trial was 93.5% compared to an ovulation rate with maitake supplementation of 76.9%. Some women in the study did not ovulate with maitake or clomiphene alone and, when the two were combined, ovulation rates in that population increased significantly.

This trial suggests that maitake supplementation is similarly effective as clomiphene at fertility enhancement in patients with ovulatory dysfunction and may be effective for people trying to conceive.

Reishi

Reishi mushroom has been used traditionally for thousands of years to help calm the spirit; in modern Western terms, support a healthy stress response. During the prenatal period, this may be one of the most important aspects of ovulation and conception. Reishi, when given at doses of 2g daily, can help to regulate levels of the stress hormone cortisol (2). When subjected to stress on a daily basis over a long period of time, people may produce too much or too little cortisol, and this cortisol dysregulation can impact sex hormone production, impacting fertility (3,4).

Reishi also regulates excess androgen (testosterone) levels, which can impact fertility in women. In a study exploring the antiandrogenic effects of 20 species of mushrooms, reishi had the strongest effect via reduction in the enzyme 5-a reductase, responsible for the conversion of testosterone to dihydrotestosterone, the more biologically active androgen (5).

This research suggests that reishi is helpful in the prenatal period for improving

sex hormone function by supporting cortisol regulation and the inhibition of 5-a-reductase.

Ergothioneine

The amino acid ergothioneine, commonly found in mushrooms, could theoretically be very beneficial during the prenatal period. Ergothioneine is a compound ubiquitous in mushrooms and algae and is found in especially high concentrations in oyster mushrooms. Humans have a very specific transporter for ergothioneine in cells that are more susceptible to oxidative stress/damage and ergothioneine builds up as an antioxidant within cells. It has been postulated that this substance may be useful as a prenatal supplement to establish an antioxidant reserve to prevent and protect against preeclampsia later in pregnancy. In one observational study, women who had a higher concentration of ergothioneine in their plasma were less likely to develop preeclampsia; more on that below (6).

Mushrooms During Pregnancy

Edible mushrooms are not only generally considered safe to consume as food during pregnancy but may actually be helpful in preventing pregnancy-related disease. It is, however, difficult to study herbs and other supplements in human pregnancy, so there is generally very little data on most supplements and natural compounds. To be on the safest side possible, it is generally not recommended to take compounds with unknown safety profiles during pregnancy (please see author's disclaimer at top of this piece).

Eat Your Mushrooms

In a randomized clinical trial, subjects consumed 100g of cooked white button (*Agaricus bisporus*) mushrooms daily in addition to their normal diet from prepregnancy until the 20th week of gestation. Compared to the placebo group, the "mushroom diet" group had a significantly reduced incidence of gestational hypertension, preeclampsia, excessive gestational weight gain and gestational diabetes, suggesting that mushrooms are a beneficial ingredient in diets during pregnancy (7).

Reishi Babies?

Other than this clinical trial, studies exploring mushroom intake in human pregnancy are sparse. There are anecdotal tales of women throughout Asia taking

reishi during pregnancy and giving birth to very calm, zen-like children, AKA "reishi babies." While I love this idea, and the adaptogenic and HPA-axis-regulating actions of reishi suggest plausibility, I could not find any actual evidence of the practice or the outcome.

Medicinal Mushrooms

While human evidence for mushroom consumption during pregnancy is sparse, there are a number of rodent studies indicating not only safety, but therapeutic value.

Shiitake: Safe in Rodent Pregnancy

Shiitake mushroom is a nutritious and widely consumed food and I have no doubt that it is safe to consume in pregnancy as a "functional" food. There are a few studies in mice and rats supporting my conclusion.

In one rat study, shiitake mushrooms were fed to rats with induced gestational diabetes. Shiitake was given early in these rats' pregnancies and there was a decrease in preimplantation pregnancy loss compared with the control group. Shiitake had a protective effect on preimplantation parameters, though it was not able to reverse gestational diabetes throughout the pregnancy (8).

In another rat study, consumption of shiitake reduced triglyceride levels and did not correlate with changes in maternal weight and reproductive capacity. There were no morphological changes in the fetuses' body measurements, suggesting that shiitake is likely safe to ingest throughout pregnancy (9).

Reishi

Another study on pregnant rats with induced diabetes explored the effects of reishi mushroom on the glycemic response in the oral glucose tolerance test as well as other values, including liver function studies and lipid peroxidation. Reishi reduced the glycemic response in the glucose tolerance test, decreased liver enzymes and decreased lipid peroxidation. Levels of important antioxidant enzymes, catalase and glutathione peroxidase, are decreased in patients with gestational diabetes; these levels were improved with reishi administration. In addition to improved blood markers, measurements of the fetal head and thorax were greater in the rats exposed to reishi, indicating healthier fetal body sizes in the reishi-consuming group (10).

Note

Studies on medicinal mushrooms throughout pregnancy are very limited; due to this limitation, customary caution dictates that they are generally considered unsafe unless they are also a known, safe culinary mushroom like lion's mane, maitake, shiitake, oyster, enoki, etc. These food mushrooms, or functional foods, are not only safe during pregnancy but may help to prevent pregnancy complications like preeclampsia and gestational diabetes.

Ergothioneine for Preeclampsia

I mentioned earlier that ergothioneine is a highly bioavailable amino acid found in mushrooms that accumulates in organs that are susceptible to higher levels of oxidative stress, like the endothelial cells lining our blood vessels (11). Preeclampsia, a pregnancy-specific clinical syndrome involving new-onset hypertension (high blood pressure) plus new-onset proteinuria (protein in the urine), is associated with oxidative stress and endothelial cell dysfunction (12). The study mentioned above demonstrated that women with the highest plasma concentration of ergothioneine were less likely to develop preeclampsia. Although there is much more investigation to be done, it is likely that ergothioneine intake in the prenatal period and during pregnancy could help protect against preeclampsia (13).

Ergothioneine: Safe in Rodent Pregnancy

In a rodent study exploring the reproductive safety of ergothioneine, no adverse or toxic effects were noted and ergothioneine was considered to be well tolerated

and without adverse effects in any of the reproductive parameters evaluated (14). Since this study, the European Food Safety Authority concluded that synthetic L-ergothioneine is safe for infants, young children and pregnant and breastfeeding women in the following amounts (in addition to background diet): 2.82 mg/kg body weight per day for infants; 3.39 mg/kg body weight per day for toddlers; and 1.31 mg/kg body weight per day for adults, including pregnant and breastfeeding women (15).

Postpartum Support

For many, postpartum is a complicated time full of deep love, exhaustion and feeling overwhelmed. Medicinal mushrooms can be extremely helpful during this time for keeping the immune system strong, supporting a healthy nervous system and possibly even helping with milk production.

Mushrooms and Breastfeeding

The most-studied medicinal constituents in mushrooms are β-glucans, AKA polysaccharides. It is well known that the main mechanism of immune-modulation from mushrooms occurs via the relationship between 1,3-1,6-β-glucans binding to dectin-1 receptors within the gut associated lymphoid tissue (GALT) within the intestines. Dectin-1 receptors are found elsewhere in the body as well, including the pituitary gland, which plays a major role in hormone production and regulation throughout the human body. The

pituitary gland is also where prolactin, the hormone that stimulates breast milk production, is made.

One study found that β-glucans stimulated prolactin production via dectin-1 receptors (16). β-glucans researched in this study are 1,4-β-glucans, which are found in oats, barley and other grains; however, based on the mechanism of action and interaction with dectin-1, it is likely that fungal β-glucans would have a similar effect.

Reishi and Cordyceps for recovery

In addition to having a potentially positive effect on breast milk production, taking mushrooms while breastfeeding also helps to support the immune and nervous systems of the breastfeeding parent, which is vital after birth. Reishi may be an essential mushroom in the postpartum period to help with sleep, anxiety, cortisol regulation, and immune support.

The combination of reishi and *Cordyceps* could help to maintain energy and regulate the nervous system when there is significant sleep deprivation (17). Mushroom extracts, taken internally and used topically, are also beneficial in all phases of wound healing and may be a helpful addition in bone broths and soups to support tissue repair after vaginal birth and C-section (18). It is important to note that reishi does have mild antiplatelet activity, meaning that it can interfere with blood clotting (19). My review of research indicates that reishi is a good option after all bleeding has stopped; if consumed prior to birth, discontinue one week before vaginal delivery and C-section.

Lion's Mane for Cognitive Support

Besides being rich in β-glucans, which may help with breast milk production, lion's mane may also help with postpartum "mommy brain." Sleep deprivation, focused attention on a newborn and hormone shifts leave little room for other mental responsibilities. While reishi can help with stress and sleep and *Cordyceps* can help with energy, lion's mane is likely the most helpful for cognitive support during this time for memory, anxiety and depression. After birth, once the placenta is birthed or extracted, sex hormones estradiol and progesterone are quite similar to the low levels found in those going through perimenopause and this hormone shift contributes to mood changes (21). Lion's mane has been

specifically studied in the menopausal population and significant benefit was seen in memory, anxiety and depression dosed at 2g daily, suggesting a similar benefit during the postpartum period (22).

Our Central Question: Mushroom Safety

I have reiterated throughout this guide that mushrooms traditionally eaten as food are widely considered safe as food before, during and after pregnancy. The safety of medicinal mushrooms taken as extracts, however, will remain up for debate. Safety considerations rest on the question of what, specifically, we are concerned about with herbs and supplements surrounding pregnancy; these concerns are mostly related to clotting issues, the potential for miscarriage via various mechanisms and interference with fetal development (teratogenicity).

No medicinal mushrooms, including those discussed in this guide, have medicinal properties or actions that are of concern for any of these potential safety issues. It is and will be, however, impossible to describe them definitively as safe due to the inherent limitations of studying safety among pregnant people in real life. We are constrained by the limits of our epistemology and rely instead on triangulating reasonable conclusions based on the evidence at hand.

Risks to pregnancy and fetal development abound in the first trimester and it is recommended to avoid all products and exposures that have unknown potential consequences during this time. During the second and third trimesters, concerns for fetal development and miscarriage diminish and it becomes more reasonable to expand your horizons. Precautions taken by pregnant parents are often highly individual and based on the personal weighing and balancing of potential risks and benefits. I hope this article has provided enough additional context and information to encourage more informed decisions while recognizing the limits of what we do, and can, possibly know for certain.

Closing Thoughts

I think of Fungi as the doulas of nature. They play an essential role in transformation: in death, decay and rebirth. It is important not only to consider the biochemical mechanisms and clinical research when it comes to using once-living organisms as medicine but to think about and understand the role they play in the natural world, including how that role reflects the way these organisms

act upon mammals energetically when they are consumed as medicine. When thinking about mushrooms in this way, I have no doubt that they would be allies throughout gestation and especially postpartum.

Dr. Anna Sitkoff, ND is a medicinal mushroom researcher, educator, entrepreneur, and practicing naturopathic physician. She can be reached via her website: drannasitkoff.com

Appendix

Author's Pregnancy/Postpartum Mushroom Safety Chart

	Prenatal	1st Trimester	2nd Trimester	3rd Trimester	Breastfeeding (Postpartum)	Not breastfeeding (Postpartum)
Reishi	Safe	Unknown	Likely safe	Likely safe	Likely safe	Safe
Maitake	Safe	Safe as food	Safe	Safe	Safe	Safe
Turkey tail	Safe	Unknown	Likely safe	Likely safe	Likely safe	Safe
Oyster	Safe	Safe as food	Likely safe	Likely safe	Safe	Safe
Lion's mane	Safe	Safe as food	Likely safe	Likely safe	Likely Safe	Safe
Cordyceps	Safe	Unknown	Likely safe	Likely safe	Likely safe	Safe
Tremella	Safe	Unknown	Likely safe	Likely Safe	Likely safe	Safe
Shiitake	Safe	Safe as food	Safe	Safe	Safe	Safe
Chaga	Safe	Unknown	Unknown	Unknown	Unknown	Safe
Ergothioneine	Safe	Safe	Safe	Safe	Safe	Safe

Author's Summary of Potential Benefits Before, During and After Pregnancy

Prenatal

- **Maitake** - Ovulation support
- **Reishi** - Decreases androgens and regulates stress hormones
- **Ergothioneine** - Antioxidant support, preeclampsia prevention

Pregnancy

- **Shiitake** - Immune support, ergothioneine benefits
- **Oyster** - Ergothioneine benefits
- **Maitake** - Immune support
- **Ergothioneine** - Antioxidant support, preeclampsia prevention

Postpartum

- **Reishi** - Stress, sleep, benefits of β-glucans
- ***Cordyceps*** - Energy, benefits of β glucans
- **Lion's mane** - Memory, anxiety, depression, benefits of β-glucans
- **Turkey tail** - Benefits of β-glucans
- ***Tremella*** - Benefits of β-glucans
- **Maitake** - Benefits of β-glucans
- **Oyster** - Benefits of β-glucans
- **Shiitake** - Benefits of β-glucans
- β-glucans - Breast milk production, immune support, microbiome support, blood sugar regulation, wound healing

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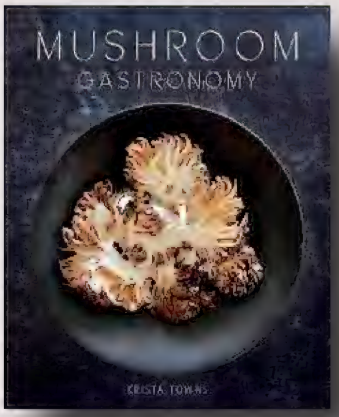
NAMA

Reads

Explore Captivating Literature Dedicated to Mushrooms and Mycology.

Mushroom Gastronomy, by Krista Towns

BOOK REVIEW BY ROBERT COURTEAU, NAMA SECOND VICE PRESIDENT



Gibbs Smith
June 4, 2024
240 pages
ISBN-13: 978-1423664970
v$28.99

Mushroom Gastronomy is a 240-page hardcover mushroom-centric cookbook authored by Krista Towns. Most of the 100+ recipes come with a photograph that Krista has taken herself, with which I am very impressed. The photos are spectacular in their own right and they do an incredible job of showcasing the recipes and highlighting the mushrooms that the book is based around.

The cookbook begins with the always-necessary foreword and acknowledgements before jumping into a very helpful introduction section. Towns, who is also

the Wild Epicure editor for *FUNGI Magazine*, is no stranger to the wonderful world of fungi and her introduction covers all the basics that one may need to know in order to start, or advance, their journey of mycophagy. In her introduction she covers raw versus cooked mushrooms, wild versus cultivated mushrooms, as well as a host of pantry items you may want to have on hand if you want to get down and dirty, in the culinary sense, with mushrooms.

Towns' introduction to pantry items extends far beyond that of the mushroom world. She introduces the reader to various oils and fats, dried items such as pasta and mushrooms, various kinds of soy sauces, vinegars, wines, stock concentrates and even the best wood for smoking mushrooms. She also goes into detail about some of the more useful tools to have in your kitchen, from a mushroom brush to a spice grinder to kitchen scales.

Her introduction continues with a general overview of the various ways one can cook mushrooms: braising, sauteing, dry sauteing, roasting, grilling, smoking and stovetop smoking. If you would rather preserve your mushrooms, she describes how to freeze, dry, powder, salt and pickle mushrooms, and just general short-term storing in the fridge. It's an introduction that perfectly balances thoroughness with brevity. Overall, it is a great 17-page foundational overview for everyone; even the more experienced among us who sometimes get stuck cooking mushrooms in similar ways time and again.

The rest of the book is broken up into 25 sections, plus a recipe index. Each one of the sections is its own mushroom except the last two sections, which are Mushroom Medleys, where a variety of mushrooms will be used in the dish, and

Stocks and Broths, recipes that, in turn, become ingredients to be used in the dishes found throughout the book. For those counting, 23 different mushroom types are used in this book. If you want to count button, cremini, and portobello as three distinct mushrooms, then you have 25 types of mushrooms (Towns combines them into one section).

In order to review this cookbook, I chose sections based on what I found in the woods that week and then would ask my friends to choose any one of the recipes in the book so that I could randomly test it. In the end, I made a chanterelle, hedgehog, lobster and cremini recipe as well as two different stocks.

Goat Cheese-Stuffed Caps with Balsamic-Blackberry Glaze, Burnt Onion and Arugula

In none of the recipes is there an estimated time for preparation, so it's worth noting that it took just over an hour to make this salad. There are many components, so it's not for the faint of heart; however, the effort was very much worth it! I had followed the recipe that "serves 2," even though I was the only one, so I got twice the amount of this spectacular dish and was all the happier for it! I might make it again for a holiday meal starter, as this belongs on a festive table. I was unable to find a blackberry preserve but settled on a mixed-berry preserve that had blackberries as the second berry but otherwise it was bang on! Definitely recommended!

Honey-Roasted Chanterelles

While there wasn't a photo associated with this dish, it was a fairly straightforward mix of chanterelles, butter, honey and tamari with a dash of thyme. This dish fell a bit flat for me. While the list of ingredients seemed to me to be in good balance between the butter (fat), tamari (salt) and honey (sweet), the end product just came out a bit bland. The mushrooms hadn't caramelized the way I had

anticipated and they weren't as sweet as I was expecting. I ate these with a group of fellow mushroom enthusiasts and my opinions seemed to be shared unanimously. I conducted my own experiment later with 50% more sugar, but in the form of maple syrup instead of honey, and that had a much better outcome. All in all, I would say this recipe is good and I would make it again with some alterations.

Lobster Mushroom Risotto and Lobster Mushroom Stock

This risotto lists lobster mushroom stock as an ingredient (or store-bought seafood stock), so it gave me a great opportunity to test two recipes at once. Flipping to the stock section of the book, I made the stock which didn't take too long: about 2 hours of simmering. I found that one of the downsides of this cookbook is that while some vegetables are well described ("1 small onion"), others aren't so well described ("1 carrot"). As there is no description of the size or weight of some of the ingredients, it's very much left to the reader to use whatever they have. In my case, when making the stock, I used 1 carrot that I would describe as medium. In reading the ingredients list, I already felt uneasy with the quantities of vegetables—but I had to follow the recipe exactly as written to ensure an accurate review. In the end, my stock tasted like a watered-down carrot broth despite taking the recommendation to simmer extra long for a stronger flavor. I most definitely would not have consumed the broth as is, in the form of soup, but the author also does not recommend doing so. Perhaps a doubling of the mushrooms would have made this broth really pop with the flavors of lobster mushrooms.

The risotto recipe itself didn't impress me either, unfortunately. To be fair, the dish itself did taste quite good but I didn't feel like it was sufficiently mushroom-forward. Perhaps it's my expectations that misled me but the parmesan, fresh herbs, toasted breadcrumbs, lemon zest and the carrot-forward broth definitely made me miss the lobster mushrooms, which ought to have been the star of the dish. With a broth that had a stronger lobster mushroom flavor, perhaps this dish would have turned out with the more potent mushroom profile that I had been expecting.

Cream of Corn and Hedgehog Soup with Sage and Pine Nuts and Mushroom Stock

I will start by saying that I was slightly disappointed that there are only two recipes

for hedgehogs in this book, with one of them being a simple conserva (in oil and vinegar). Since corn was in season, the soup recipe seemed like a solid choice in any case.

In order to make this dish, I first had to make some mushroom stock, which uses some fresh button mushrooms (or shiitake) and some dried shiitake, as well as the usual aromatics one would use for making a stock. It turned out phenomenally. The broth was rich in flavor and thick in texture (the way a good stock should be) and the umami of the mushrooms really came through in a beefy kind of way. This is a perfect stock that is inexpensive and easy to make in under 3 hours.

The soup itself was pretty good as well! The corn and mushrooms were in great balance and you could taste both quite readily. The kick of flavor came from the garnish of salted pine nuts and fried sage leaf. It is fairly typical of a soup to be well balanced, with the garnish providing the kick, which is why it's so important to include the garnish and not to skip it; the garnish makes the difference between a good soup and a great soup. This is a fantastic way to use up a large harvest of hedgehog mushrooms.

In conclusion, while I don't typically follow cookbooks to the letter, as a former chef I do love to gain inspiration from photography. I cannot stress enough how great Towns' photos are and I wish there were even more of them! That is not a gripe but rather a point of praise, as she has provided more than enough for any great cookbook. Towns covers a wide range of mushrooms and in almost all cases gives numerous recipes for each. If the recipes for a given mushroom aren't to your taste, you can always sub in your favorite.

While I don't believe this, or any cookbook, is perfect, this one does the world of mushrooms justice and provides many recipes so that you can enjoy mushrooms in many ways without getting bored. For that reason, I recommend this book and will no doubt cook a few more of Towns' recipes in the future. It's time for everyone to extend beyond sauteeing mushrooms in butter and putting them on bread; while I do love it, life is too short to limit ourselves to mushrooms on toast!

Special thanks to the members of the Ottawa Mushroom Society, who helped choose and taste-test the recipes.

NAMA Crossword

BRUCH REED

All the answers can be found in this MQ edition!

Clues on the next page

July August September NAMA Crossword

BRUCH REED

Across

1 Hutzel's inspired surprise
6 Kimmerer plaits
11 where asci form
13 Estonian-sought parasite
15 "doulas of nature"
16 a Curry-ous place to dry boletes
19 uncommonly culinary genus
21 Towns is the Wild
24 new manager position
27 Curry Ranch county
28 culinary entrants sought to avoid being
31 an asexual-spore-producing fungus is
32 *Perisoreus canadensis*, by reputation
33 Chef Schreiber's Italian pudding
34 Donor of mushrooms
35 from a jay?
36 Whiskeyjack's lost meal
37 not so saintly in 1980
38 she conquered the Challenge!

Down

1 surname of "a nice gentleman"
2 dead trees taller than 6'
3 RImycoS season kickoff meeting
4 FunDiS seeks
5 simple way to preserve hedgehogs
7 leading RImycoS "storm doubter"
8 Cree traditional story
9 what Arora did
10 lacking in replanted timber parcels
12 safe time to eat culinary mushrooms
14 Instagram takeover "particle"
17 royally delicious dish artist
18 dangerous late-pregnancy condition
20 fungi-associating fungi are
22 cover "baby"
23 PNW varnished conk epithet
25 Monegasque Prince or misspelled mountain
26 a smaller-than-Annual NAMA foray
29 Challenge-ing ingredient
30 Fairbanks' favorite fir

Answer Key to the April/May/June NAMA Crossword

BRUCH REED

ACROSS

1 featured in Annual Foray logo – ***Taricha granulosa***
6 shroom-legislating Mexican Senator – **Lagunes**
8 "land of falling waters" – **Cascadia**
11 Cripps-y way to cook morels – **crispy**
16 ant studier – **myrmecologist**
17 visually fraternal mycotwins – **lookalikes**
21 "aren't fire hydrants!" – **lobsters**
22 crimson list – **IUCN**
23 of edible mushrooms – **mycophagical**
26 a Visual Arts Chair by any other name – **Rose**
28 pint-sized Mexican mushroom expert – **honguerita**
29 *Cheilymenia* substrate – **dung**
32 staggeringly-sized PNW polypore – ***Bridgeoporus***
35 erumpent PNW mountains - **Cascades**
36 rhymes with common wildfowl – **Ballard**
38 Walker's favorite dukkah fruit – **mango**
41 penny-pated herp genus – ***Agkistrodon***
43 Chief Mycologist who would have ark-saved spores – **Noah**
44 inadvisable *Morchella* dish – **sushi**
47 city below the Sandia Mountains – **Alburqueque**
48 new NAMA membership type – **Business**
49 Batokova's native cuisine – **Czech**
50 morel-y unfortunate Montana town – **Bozeman**

DOWN

2 muscle melting – **rhabdomyolysis**
3 culture of mushrooms – **counterculture**
4 uncooked-enoki malady – **listeriosis**
5 his Money is on mushrooms – **Nicholas**
7 bubbly burn-morel epithet – ***exuberans***
9 classic comfy campy digs – **Airstream**
10 pharmaceutical-scheduling President – **Nixon**
12 WA Mt. – **Ranier** (*of course it should be Rainier. Apologies for my uncorrectable misspelling - ed.*)
13 Deb "realm of prisonblades" – **Shankland**
14 vacuole-escape process – **vomocytosis**
15 literal SSMC Polypore "Queen" – **Regina**
18 a talented Dukakis and PNW State Capital – **Olympia**
19 edifice of campy beds – **bunkhouse**
20 genus of Levi's ant – ***Trachymyrmex***
24 winner's beloved pup – **Chingu**
25 *Fusarium*-y foodstuff – **Quorn**
27 fruitful AZ inn – **Strawberry**
30 "August" in northern Mexico – **Hongosto**
31 NAMAZona's breathtaking edge – **Mogollon**
33 prudent sartorial forest hue – **orange**
34 NAMA's filmographical foray philosophy – **Field of Dreams**
37 PNW's absent serpent category – **venemous**
39 mushroom artist Heather Brooks' oeuvre – **collage**
40 biblical beard festooner – **Methuselah**
42 perfect Pinchot that won't be an autumn stranger – **Gifford**
45 lactofermented *Citrus* and *Capsicum* – **kosho**
46 Skiier wants you to make it – **fancy**